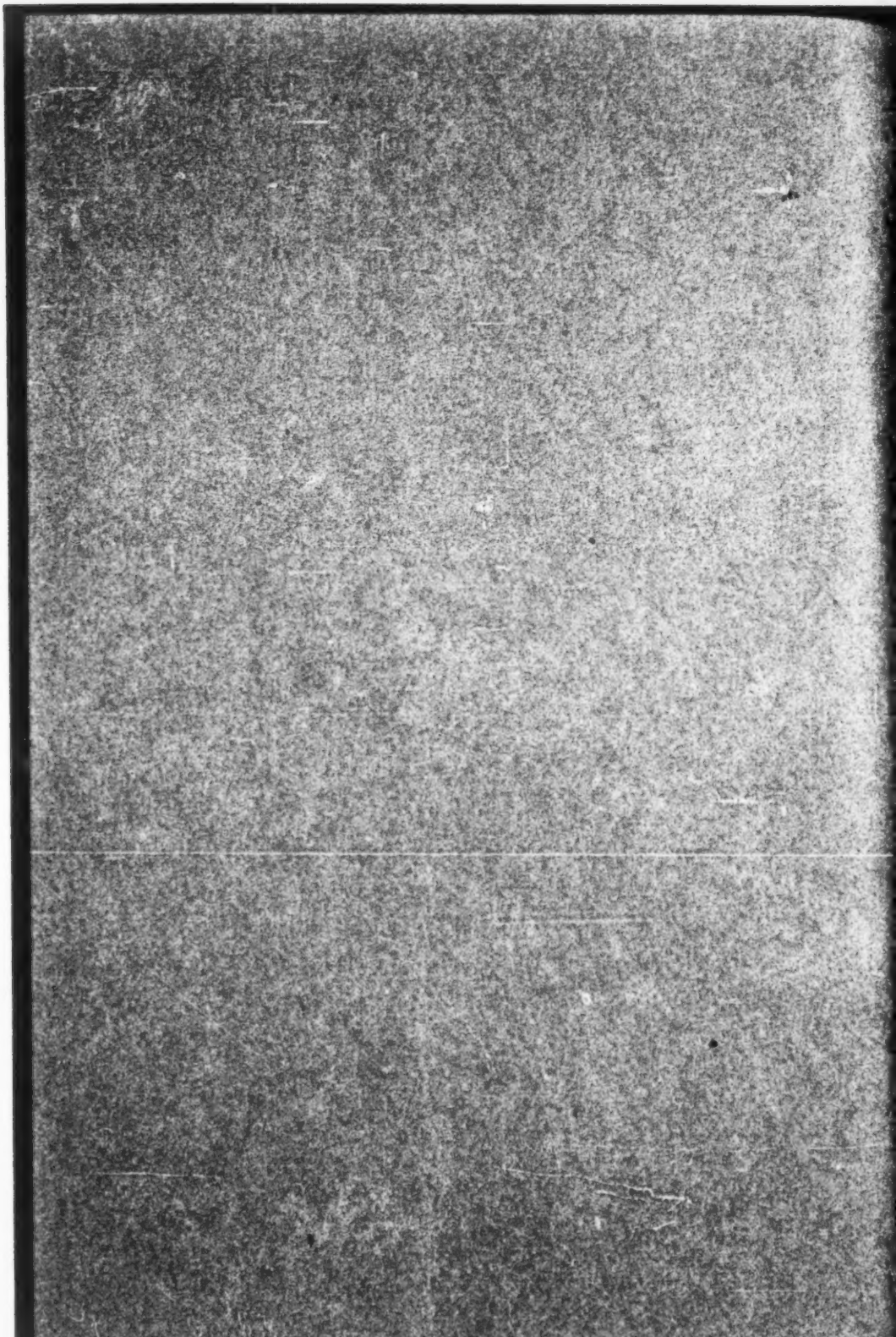

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1934.

Nos. 255 and 256.

ALTOONA PUBLIX THEATRES, INC.,

Petitioner,

AND

WILMER & VINCENT CORPORATION AND LOCUST STREET REAL ESTATE COMPANY,

Petitioners,

vs.

AMERICAN TRI-ERGON CORPORATION AND TRI-ERGON HOLDING, A. G.,

Respondents.

BRIEF FOR PETITIONERS.

CHARLES [illegible]

[illegible]

[illegible]

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IN THE

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OCTOBER TERM, 1934.

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AMERICAN TRI-ERGON CORPORATION and TRI-ERGON HOLDING, A. G.,
Respondents.

BRIEF FOR PETITIONERS.

Opinions of the Courts Below.

The opinion of the Circuit Court of Appeals is reported in 72 F. (2d) 53. It will be found in this record at Volume II, page 1157.

The opinion of the District Court is reported in 5 Fed. Supp. 32. In this record it is at Volume II, page 1027.

Jurisdiction.

These cases are here on writs of certiorari to the Circuit Court of Appeals for the Third Circuit under the provisions of United States Code, Title 28, Section 347.

The petitions for the writs were, at first, denied on October 8, 1934. Upon rehearing, the writs were granted, November 5, 1934.

Statement of the Case.

These are patent infringement suits. Both cases are based upon the same patent, No. 1,713,726, granted May 21, 1929. Of the nineteen claims of this patent, seven, namely, claims 5, 7, 9, 13, 17, 18 and 19, are in issue. All of these claims were held valid and infringed by Judge Johnson in the District Court for the Middle District of Pennsylvania. His decrees were affirmed by the Circuit Court of Appeals (Judges Buffington, Davis and Thompson; Judge Buffington writing the opinion). It is the petitioners' position that all of these claims are invalid.

The parties:

The petitioners (defendants below) are operators of motion picture theatres. The machines used by them for projecting talking motion pictures, or rather the portions of those machines which have to do with the sound reproduction, are complained of as infringements of certain claims of the patent in suit. The Radio Corporation of America is defending both cases on behalf of its subsidiary, RCA Photophone, Inc., which supplied those machines to petitioners.[1] They have been treated as a single case throughout, and are so treated in this brief.

The respondent, American Tri-Ergon Corporation, is a patent-holding company, which the record shows[2] was organized in 1928 as a personal venture of William Fox

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[1] Vol. I, p. 64.

[2] P. Ex. 14B.

(then but not now connected with the Fox Film Company) for the express purpose of exploiting commercially in the United States the inventions of three Germans, Vogt, Engl and Massolle, who are the patentees of the patent in suit; but the record contains no evidence that the American Tri-Ergon Corporation has ever taken any part in the motion picture industry, either by the production of motion pictures, the furnishing of equipment therefor, or the granting of licenses, its principal activity being the prosecution of this and other litigation. Nor has the patent in suit been a factor in the commercialization of talking motion pictures.[1] The other respondent, Tri-Ergon Holding, A. G., is a Swiss company which is joined because it claims certain rights under the patent in suit.

The patent in suit as related to talking motion pictures:

The patent in suit is entitled "Device for Phonographs with Linear Phonogram Carriers".

Its only relation to talking motion pictures is that the phonograph which it discloses, like many others, may be used in connection with talking motion pictures, in recording and reproducing the sound. The claims in issue are directed to phonographic apparatus only, irrespective of the particular use to which it is put.

Although the patent relates to phonographs, it does not disclose any *complete* means for either recording sound or reproducing sound, to say nothing of the elaborate apparatus necessary for electrical reproduction of sound with the clearness and loudness necessary for use in connection with talking motion pictures.

The technical developments of recent years relating to sound recording and reproduction, which have been responsible for the commercialization of talking motion

[1] *Infra,* pp. 52-58.

pictures, have had to do with parts of the system about which the patent in suit is wholly silent.[1]

Of the more than one hundred German patents taken out by the patentees of the patent in suit, having to do with phonographs and other devices which may be used in connection with talking motion pictures,[2] the three phonograph patents upon which the United States patent in suit is asserted to be based, have been classified by the respondents as relating to "mechanical features of the film feed, etc."[3] As will appear in a moment, the thing to which the patent in suit is directed primarily, is the use of a flywheel at an appropriate place in the record feeding mechanism of the phonograph for securing the desired uniformity of record speed.

The patent in suit and its relation to the prior art:

The patent in suit,[4] was applied for in 1922 but did not issue until 1929. As stated above, it is entitled "Device for Phonographs with Linear Phonogram Carriers".

"Phonograms", or sound records, long had been and still are made on various kinds of carriers, such as (a) on wax or other impressionable cylinders or discs, the sound record being in the form of a shallow groove varying in depth, or in direction, in accordance with the variations in frequency and intensity of the sound; (b) on long strips of waxed paper carrying sound record grooves of the character referred to above; (c) on long strips of film on which the sound variations are photographically or otherwise recorded; or (d) on long steel wires on which the sound variations are magnetically recorded.

The long strips of paper or film and the long steel wires or other long carriers of the sound record are referred to in the patent as "linear" phonogram carriers.

The patent has to do with an alleged improvement in recording and reproducing machines using such "linear"

[1] *Infra*, pp. 53-57.
[2] Vol. V, p. 1725.
[3] Vol. III, p. 302, group 5.
[4] Vol. III, p. 5.

phonogram carriers or records. That alleged improvement, as set forth in the statement of invention in the patent specification and as defined by most of the claims in issue, involves the application to such machines of flywheels for securing uniformity of speed of the record carrier. Accordingly, this patent is frequently referred to by those interested in this litigation, including the *respondents,* as "the flywheel patent".[1]

The specification of the patent starts as follows:[2]

> "The recording and the reproduction of sound waves by the use of linear phonogram carriers such as film strips, steel wires, and so forth, can only be effected in absolutely satisfactory manner, even after the removal of all other occurring difficulties, when the speed of the record carrier is uniform both for the receiving and the reproduction, and when in both cases no variations of any kind occur. Especially in the case of musical reproductions is the record extremely sensitive to the slightest variations of speed."

This statement is, of course, equally true as applied to cylinder and disc records.

The patent then purports to state what had already been done in connection with cylinder and disc machines for securing uniformity of record speed—but without mentioning the flywheel which had been used for almost fifty years for that purpose.[3] It then asserts that the "problem" is more important with linear record machines because those records are lighter and therefore have less momentum when in motion, than the cylinder and disc records. The patentees' "solution" of this "problem" for linear record machines is stated thus:[4]

> "*According to the present invention,*[5] this drawback which attaches to all *hitherto known* propulsion

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[1] Vol. V, p. 1633.

[2] Vol. III, p. 5, lines 1-12.

[3] *Infra,* pp. 23-25.

[4] Vol. III, p. 5, lines 42-54.

[5] Italics ours throughout this brief, unless otherwise noted.

> mechanisms for linear phonogram records [*i. e.*, irregularities in the motion] is obviated by the arrangement, that the light sound record has given to it at the controlling point the property of a weighty mass. This is attained by the arrangement that the record carrier (a film strip or the like) is firmly pressed against one or more rollers *connecting with a heavy rotating mass,* so that the record moves in exact conformity with the rollers and the rotating mass.''[1]

All of which means merely that the roller against which the record is held and which carries the record past the controlling point of the machine (*i. e.*, the point where the record is made in recording or is used in reproducing) has a flywheel connected to it. The action of the flywheel improves the uniformity of speed of the roller, and therefore of the record which moves with it.

Of the several *old* types of linear phonogram carriers referred to in the patent, the one selected by the patentees for illustrating the way in which the flywheel may be utilized in carrying out this alleged invention, is the film strip upon which the sound is recorded photographically. As has long been practiced in the use of such records, in both the recording and reproducing steps, the strip is, by means of a machine, or ''phonograph'', moved past a source of light. The light, usually in the form of a very narrow band, is focused on a portion of the sensitized surface of the film and in *recording* the light is varied in intensity (or the length of the band of light is varied) in accordance with the sound variations, thus producing, on the developed film, a series of narrow lines varying in density or varying in length. In *reproducing* sound from this record, the film is moved past a light and, because of the variations in density or length of the sound lines on the film, a varying amount of light passes through

[1] The three paragraphs which follow this one in the issued patent were inserted many years after the application was filed. They will be referred to later (p. 10).

the film to a light responsive device which acts to produce corresponding electrical variations which act upon the diaphragm of a loud speaker to produce sound. For convenience, throughout this brief, we shall use the term "film phonograph" as applying both to machines for recording sound photographically and to machines for reproducing sound by means of light from records so made.

In their drawings, the patentees show several ways in which their alleged invention may be applied in film phonographs, particularly in the reproduction of sound. In each instance the reproducing machine includes means (shown diagrammatically at *o*) for projecting a narrow line of light on the film, and a light sensitive device (shown diagrammatically at *z*) which is illuminated in varying degrees by the light passing through the film record. In the constructions of Figs. 2 and 4, in order that the record-carrying cylinder shall not block the passage of the light through the film to the light sensitive device, that cylinder may be made of glass, or the portion of the film bearing the sound record may project over the edge of the cylinder as shown in Figs. 3 and 6.[1] The necessary electrical means for converting the response of the light sensitive device into sound are not shown.

The record feeding means comprise various arrangements of the usual cylinders, toothed or smooth, as the case may be, around which the record passes. The supposed improvement, described in the patentees' statement of invention quoted above, has to do *only* with these record feeding means. It consists in associating flywheels with one or more of these cylinders to improve the uniformity of record speed. In Fig. 1, there are two such flywheels, m_1 m_2; in Fig. 2, there is one, marked *m;* in Figs. 3 and 4 there is one, marked *i;* and in Figs. 5 and 6 there is one, marked *i'*. In Figs. 5 and 6 there is an "elastic coupling" between the drive shaft and the flywheel through the arm 2, connected to

[1] Patent, Vol. III, p. 6, lines 50-55.

the shaft *a'*, and the spring 3, which connects this arm to the flywheel.

As previously stated, the alleged invention of this patent is concerned only with the recording and reproduction of sound—not with motion pictures of any kind.

We shall now refer briefly to the claims in issue,[1] and to the prior practices and disclosures which we contend render them invalid.

The flywheel claims (5, 7, 17, 18, and 19):

Of the seven claims in suit, five, namely, claims 5, 7, 17, 18 and 19, conform to the statement of invention quoted above. That is, they have to do with means for feeding linear records, and the alleged improvement which they purport to cover is the association of a flywheel with a record-carrying cylinder adjacent the translation point (*i. e.* the point where the light strikes the record, if we are considering a film phonograph) for the purpose of improving the uniformity of speed of that cylinder and, therefore, of the record at that point. One of these claims (claim 7) includes also the flexible flywheel connection of Figs. 5 and 6 of the patent in suit. We shall call these the flywheel claims.

As will hereinafter be shown, the association of a flywheel with a record-carrying cylinder of a phonograph adjacent the translation point, dates back to Edison's original cylinder record phonograph, which was patented more than fifty years ago.[2] Also prior to the alleged invention of the patent in suit, this idea was used in several types of linear record phonographs, including, as we contend, film phonographs.[3] And it was fully disclosed in connection with the continuous feeding of picture films in motion picture projectors.[4] Also, the flexible flywheel connection was old in the phonograph art.[5]

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[1] These claims are quoted at pages 1-6 of the Appendix to Petitioners' Brief, filed herewith.

[2] *Infra*, p. 24.

[3] *Infra*, pp. 24-31.

[4] *Infra*, pp. 32-34.

[5] *Infra*, p. 21.

The two remaining claims (9 and 13) have to do with subject matter entirely foreign to the patentees' original statement of invention. They were presented many years after the filing of the application, for the purpose of covering intervening commercial developments of others.

The "arcuate flexing" claim (claim 9):

This claim[1] is in the form of a broad method claim, and, as granted, purports to cover the operation of any film phonograph in which the film is flexed "arcuately longitudinally at the point of translation." It is based upon the fact that in Figs. 2, 3, 4 and 6 of the patent in suit, the film is carried by a cylinder as it passes the translation point. With such an arrangement, the film is necessarily bent in the arc of a circle at that point.

When the application for the patent in suit was filed in 1922, nothing was said about this "arcuate flexing" of the film. Nothing is said about it, and no function is attributed to it, in the specification of the patent itself. But, in 1928, *after talking motion pictures using film phonographs had been commercialized in this country,* independently of these patentees,[2] this claim 9 was inserted into the application.[3]

As will presently be pointed out, there are many prior patents for film phonographs in which this "arcuate flexing" is brought about in the same way as in the patent in suit,[4] namely, by reason of the fact that the film is carried by a cylinder as it passes the translation point; and the very different device used by the petitioners for "arcuately flexing" the film in their machines, is also definitely old.[5]

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[1] Appendix, p. 5.

[2] *Infra,* p. 53.

[3] Vol. III, pp. 78, 79.

[4] *Infra,* p. 18A.

[5] *Infra,* p. 36.

The optical claim (claim 13):

This claim[1] was presented even later than claim 9, and indeed, after one of the petitioners' alleged infringing machines was in commercial use.[2] It has to do with the means shown diagrammatically at *o* in the patent drawings for projecting the narrow line of light upon the film, and with the light sensitive cell, shown diagrammatically at *z*.

The light projecting means are referred to in the claim as being of the so-called "optical slit" type, as distinguished from the "physical slit", meaning that the light striking the film is confined to a narrow line by a lens system rather than by a slitted plate just in front of the film. Neither the drawing nor the specification gives any information as to the construction of these means, or as to the way in which the narrow line of light is produced. The light sensitive cell *z* is referred to in the *claim* as being of the type long known as the "photoelectric cell", although there is nothing in the *specification* to indicate that a cell of that type is contemplated, or that the patentees prefer any particular type of light sensitive cell over another.[3]

In 1929,[4] after the presentation of this claim, the specification was amended by inserting the three paragraphs beginning at line 55 of page 1 of the patent.[5] This amendment, made seven years after the application was filed, was the first suggestion in the specification that the object of the invention went beyond the subject matter of the flywheel claims.

In a later part of this brief we shall show that both "optical slit" systems and photoelectric cells were well

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[1] Appendix, p. 6.

[2] PS-1 Machine, *infra*, p. 12A; Vol. II, p. 848.

[3] By one familiar with photoelectric cells, the drawing might be taken to illustrate such a cell, diagrammatically.

[4] Vol. III, p. 94.

[5] Vol. III, p. 5.

known for use in film phonographs prior to the alleged invention of these patentees.[1]

The disclaimer:

Following the filing of these suits in 1932[2] the petitioners duly filed their answers, and then amended answers, attacking the validity of the claims and specifying the prior disclosures upon which they would rely in that connection.[3] They also gave respondents, at *their* request, access to and full information concerning the alleged infringing machines. Thereafter, in May, 1933, less than two weeks before the commencement of the trial, the respondents filed a disclaimer,[4] in which they disclaimed all of the claims in suit, as they stood, and proceeded to make substantial amendments to all of them.[5] The amendments to the flywheel claims did not include any of the elements of either of claims 9 and 13. *But both of the latter claims were amended by adding the flywheel.*

It is the petitioners' position that the claims as amended are still invalid over the prior art; and, further, that the disclaimer is invalid and renders the claims invalid.[6]

The Opinion of the Court of Appeals:

When this patent finally reached the Court of Appeals, after the changes made during the long prosecution in the Patent Office, and after the further changes made by the disclaimer on the eve of trial, it was dealt with in a most unusual way. *The Court of Appeals disregarded the claims entirely, and attributed to the patentees a wholly new combination of elements, different from anything covered by their statement of invention, or by any claim,*

[1] *Infra,* pp. 38-42.

[2] As already noted, the patent issued in 1929 upon an application filed in 1922.

[3] Vol. I, pp. 20-25; 44-49. [4] Vol. III, p. 227.

[5] For amendments, see Appendix, pp. 1-6.

[6] Point III, *infra,* p. 59.

and consisting of all of the elements of all of the claims, making five elements in all.[1] Finding no single prior disclosure which included *all five* of those elements, the Court concluded that that putative combination involved invention, and *therefore upheld all of the claims, quite irrespective of the fact that none of them is directed to that combination. A majority of them include only one of the five elements.*

We shall discuss the Court of Appeals' decision in greater detail later.[2] We mention it at this point merely to indicate how the claims in suit came to be upheld by the Court of Appeals in spite of the facts stated above with regard to the prior art applicable to each of them.

The Petitioners' machines:

Two different forms of sound reproducing apparatus are alleged to infringe the patent in suit. They are known as PS-1 and PS-16 and are illustrated on the following pages, numbered 12A and 12B.

These machines had their origin in the work of a General Electric Company engineer, named Hoxie,[3] whose first film phonograph was completed and successfully operated in the early part of 1921, prior to the effective date of the application for the patent in suit.[4] This first

[1] These five elements are (1) the flywheel, (2) the flexible flywheel connection of claim 7, (3) the "arcuate flexing" of claim 9, and (4, 5) the "optical slit" and photoelectric cell of claim 13.

[2] Point II, *infra*, p. 47.

[3] Vol. I, pp. 611-614; 621, 630.

[4] Although the United States application for the patent in suit was not filed until 1922, the applicants filed a corresponding German application on March 24, 1921, which date therefore becomes the effective date of their United States application. Hoxie's first film phonograph was completed and successfully operated before that time, the sound record which is in evidence having been made on March 8, 1921 (Vol. I, pp. 605-8).

PLAINTIFFS' EXHIBIT NO. 15-A.

DIAGRAM OF
DEFENDANT'S PS-1 SOUND APPARATUS

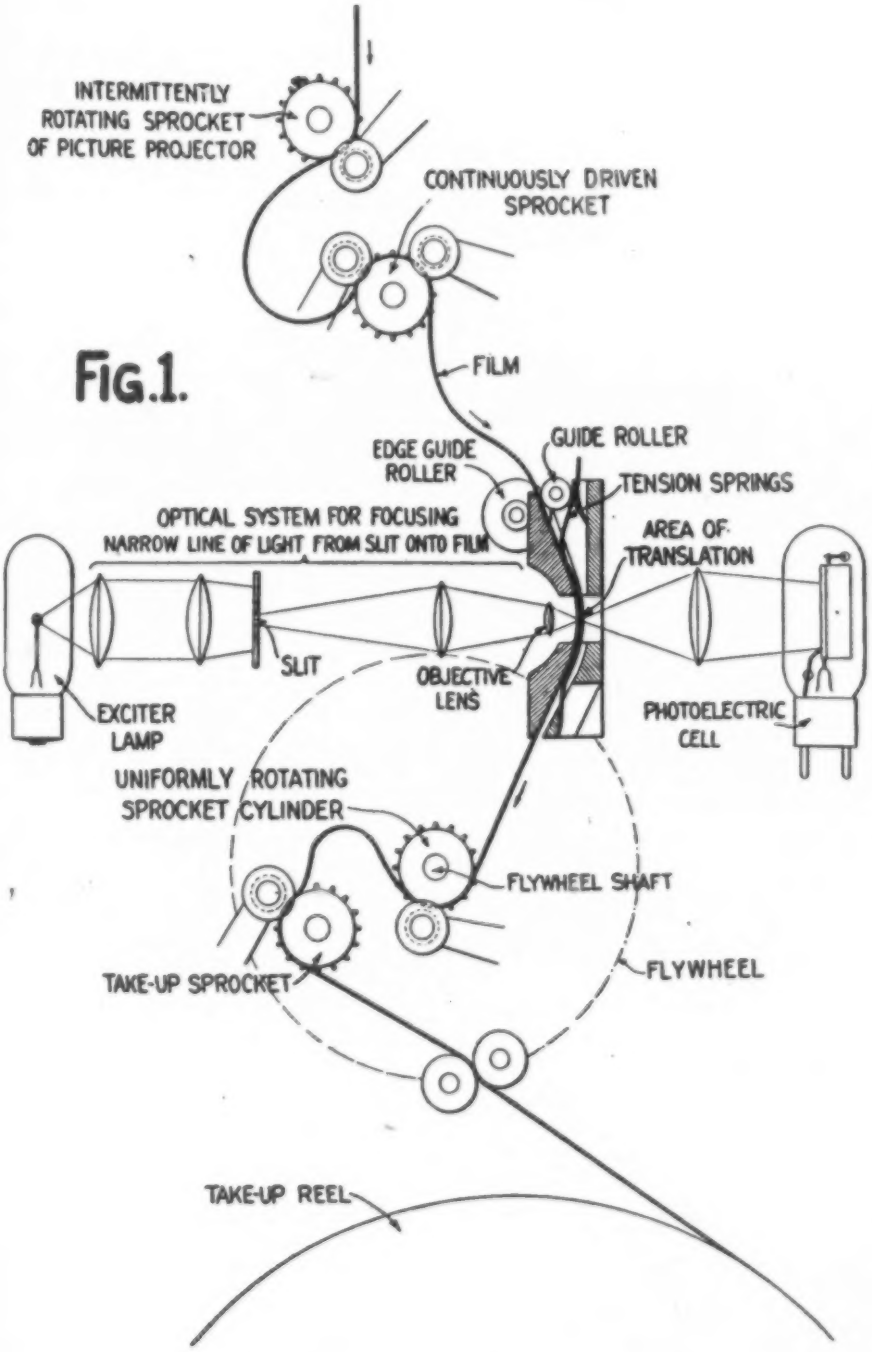
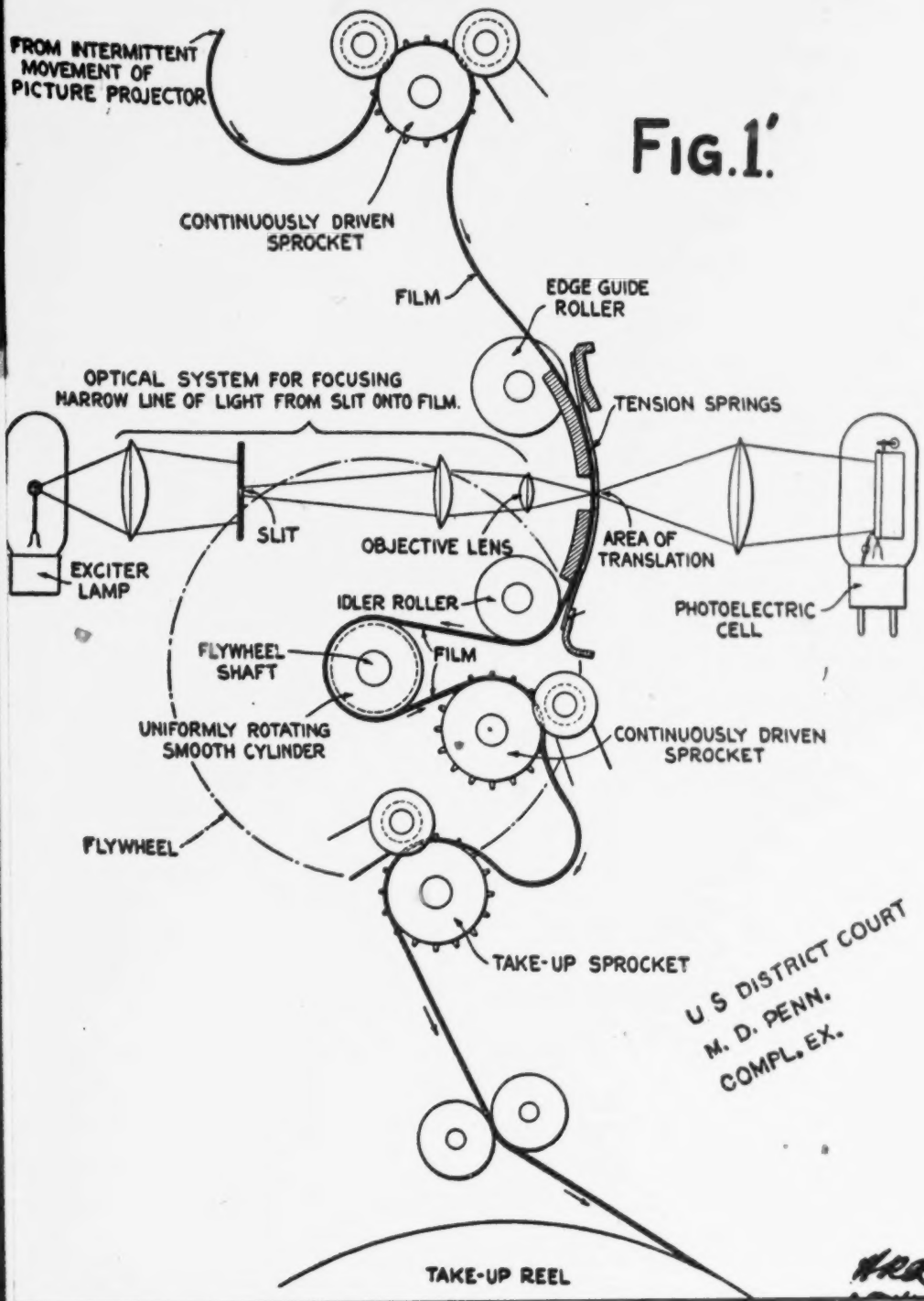


FIG.1.

PLAINTIFFS' EXHIBIT NO. 15-D.

DIAGRAM OF DEFENDANT'S PS-16 SOUND APPARATUS



machine, as well as those constructed by Hoxie in subsequent years,[1] followed, in general arrangement, the film phonograph of the Duddell British patent of 1902,[2] a drawing of which appears later in this brief.[3] Hoxie used a photoelectric cell as the light sensitive element throughout his work.[4]

The petitioners' PS-1 and PS-16 machines follow Duddell and Hoxie in general design. In neither of them does the film take the unusual circuitous path of Fig. 1 of the patent in suit; in neither of them is the translation point on a cylinder, which is the old arrangement shown in all of the other figures of that patent. Instead, the translation point is located between an upper and a lower cylinder as in Duddell and Hoxie, and the light sensitive device is, like Hoxie's, of the old photoelectric cell type. It is not housed by a film carrying cylinder, as in Figs 2 to 6 of the patent in suit, but is independent of all cylinders and rollers. In traversing the translation point, the film in the petitioners' machines passes through an old form of curved "film gate".[5] The petitioners' lens arrangement for focusing a line of light upon the film at the translation point is an "optical slit" system following closely explicit disclosures of the prior art.[6] The patent in suit does not show how the line of light is produced or how it is translated into sound.

With regard to the use of a flywheel, the features of the petitioners' machines that are complained of primarily, are, (a) in the PS-1 machine, the association of the flywheel with the "uniformly rotating sprocket cylinder" which moves the film past the translation point and, (b) in the PS-16 machine, the association of the flywheel

[1] Photographs of these later machines are in the record, Vol. IV, pp. 705-719. All of them had flywheels (Vol. I, pp. 603-614, 630).

[2] Vol. V, p. 1335.

[3] *Infra*, p. 16.

[4] *Infra*, p. 41.

[5] *Infra*, p. 36.

[6] *Infra*, pp. 38, 39.

with the "uniformly rotating smooth cylinder" which is interposed between the film-pulling "continuously driven sprocket" and the translation point.[1]

The Errors Assigned and to be Relied Upon.

The errors assigned in the petition for certiorari and here to be relied upon are that the Circuit Court of Appeals erred:

1. In failing to hold that the claims in suit are invalid because of anticipation and want of invention.

2. In failing to hold that the disclaimer, affecting all of the claims in suit, is invalid, and that therefore the claims are invalid.

---

[1] Claim 5, which specifies that the flywheel is associated with a "toothed" cylinder, and claim 7, which includes the elastic flywheel coupling of Figs. 5 and 6 of the patent in suit, are asserted to be infringed by the PS-1 machine only, the elastic flywheel coupling of that machine being shown at Figs. 8 and 9 (Vol. III, p. 329). Claim 17, which was amended by the disclaimer to describe the particular flywheel arrangement of the PS-16 machine, is asserted against that machine only. All other claims in suit are charged to be infringed by both machines.

ARGUMENT.

POINT I.

The claims in issue are invalid because anticipated and lacking in invention in view of the prior knowledge and practices.

Before discussing any of the claims in detail we shall refer briefly to the film phonograph art generally, to give a background for what is to follow.

Early disclosures of film phonographs:

An early and concise disclosure of film phonographs is contained in the British Duddell patent of 1902.[1] In recording,[2] the sensitized film is caused to travel past a point where a "fine bright line of light"[3] is focused upon it, by winding it "*steadily and uniformly* from one of the drums D, D′ to the other by any of the well known means."[4] The length of this line of light is varied through the action of a mirror which responds to sound variations. As a result, the sound is recorded on the film as a series of narrow lines varying in length.[5] The reproducing apparatus is

[1] Vol. V, p. 1335.

[2] Vol. V, p. 1340, Fig. 6.

[3] Vol. V, p. 1337, line 30.

[4] Vol. V, p. 1337, last line.

[5] Records of this type, in which the lines vary in length, are called "variable area" records as distinguished from those in which the lines vary in density, which are called "variable density" records. Both types are used today commercially and are reproduced indiscriminately in the petitioners' alleged infringing machines.

shown diagrammatically in Fig. 7 of the patent which is copied below.

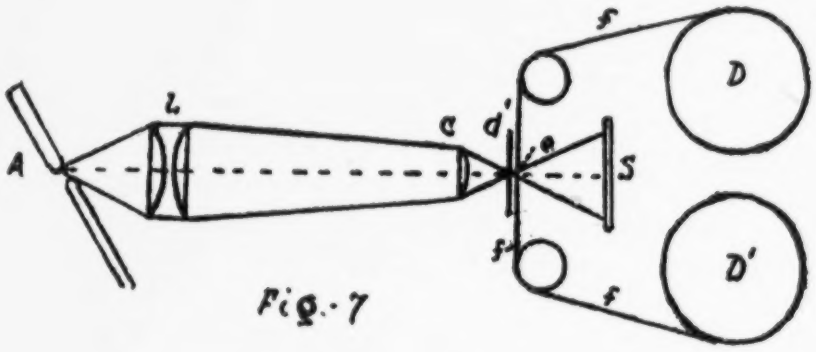


Fig. 7

In describing this reproducing apparatus, Duddell says:[1]

"In order to reproduce at will the original sounds I employ the apparatus shewn diagrammatically in Figure 7. The light from the source A is concentrated by means of the condenser L and the cylindrical lens C into an intense line of light which passes through the record *f* at *e*.

"I sometimes find it advantageous to employ a fine slit at *d'* to improve the definition and firmness of the line of light.

"A selenium cell *or other photo-electric apparatus* is placed at S and is suitably enclosed so that it is only illuminated by the light which passes through the record.

"The record is caused to travel by winding it steadily from one of the drums D, D' to the other, at approximately the same speed as was used in making the record, this causes the illumination of the selenium cell to vary in a manner corresponding to the relative widths of the opaque and clear parts at each point of the record; and consequently corresponding to the movements of the oscillograph mirror which was originally employed to make the record and to the original sound waves. I connect in series with the selenium cell a battery B Fig. 8 and one or more telephone receivers *t t'* so that when the resistance

[1] Vol. V, p. 1338, lines 27-46.

of the selenium cell varies due to changes in the illumination the current through the telephone receivers also varies causing them to reproduce faithfully the original sounds."

The Ries patent No. 1,607,480[1] which was applied for in 1913, shows a complete talking motion picture machine, including a picture projector and also a so-called "sound head" or film phonograph for reproducing in synchronism with the pictures sound recorded on the film beside the pictures. Its drawings are mechanical in character, showing the details of the machines used. See particularly Figs. 1 and 2.[2] In general, the sound reproducer follows the diagrammatic showing of the Duddell patent. Ries says that the film is passed through the sound reproducing apparatus "at a uniform constant speed".[3]

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[1] Vol. V, p. 1232.

[2] Vol. V, pp. 1232, 1233.

[3] Vol. V, p. 1238, line 77. In 1931, in *Stanley Co. of Am.* v. *General Talking Pictures Corp.*, 47 F. (2d) 817 (C. C. A. 3), the Court held, in an opinion by Judge Buffington, that this Ries patent, applied for as early as 1913, was very limited in scope in view of prior patents, including the Duddell patent, and said:

> "• • • *We refer to this in order to now dispel any impression that the patent here involved is the foundation stone, so to speak, of the 'talkie-movie' art.* Now in sound reproduction two types of records have *long been known,* namely, the disc system, which is used in victrola practice, with which we are not here concerned only to say the sound waves are there recorded by a cutting stylus on a wax record and reproduced by contact with a needle. *The other known method,* and with which we are here concerned, is where the sound waves are photographed on a sensitized film from which film record they are reproduced by action thereon of a beam of light. • • • In the already made photographed film which the patent in suit uses, the sound vibrations have been photographed on the sensitized film, and, without entering into details, it suffices to say the photographed

In both the Ries and Duddell machines, the translation point is between two film-carrying cylinders rather than *on* a film-carrying cylinder as in the machine of Figs. 2-6 of the patent in suit. There are a number of prior disclosures of film phonographs (recorders) of this latter type also. See for example the Bock patent No. 364,472 of 1887,[1] Byron patent No. 1,185,056 of 1916[2] and Pedersen British patent of 1918.[3]

Drawings of these last three patents are reproduced on the opposite page. In the Bock machine,[4] the path of the light to the point where the light strikes the film *a* on the cylinder *b* (*i. e.*, the translation point) is indicated by the dotted line; in the Byron machine the light beam projects through the funnel shaped device 32 onto the film carried by the cylinder 13; and in the Pedersen machine (from which the film is omitted in the drawing),

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modulations are evidenced by differences in film translucence. Such being the case, it follows that, as such a film is moved past an effective line of light, these variations in translucency vary the quantum of penetrating light and so vary the degree to which the light cell is illuminated. This results in correspondingly electrical vibrations which in due course are translated by a loud speaker into sounds which correspond to and are in reality replica or re-creations of the sounds which had made the original sound record. It will be noted that for various reasons in such sound reproduction the width of the line of light penetrating the film must be exceedingly slight and sharply defined in order to obtain the desired clear-cut and sharp sound effects desired *just as in the disc practice already referred to the excitant needles must be sharp.*"

[1] Vol. IV, p. 802.

[2] Vol. III, p. 146.

[3] Vol. V, p. 1346.

[4] The drawing of the Bock patent includes what obviously is a draftsman's error. The belt connecting the central and upper cylinders, should be twisted to form a figure 8, in order to drive the upper cylinder in the proper direction.

L. BOCK, JR.

RECORDING AND REPRODUCING SOUND WAVES.

No. 364,472. Patented June 7, 1887.

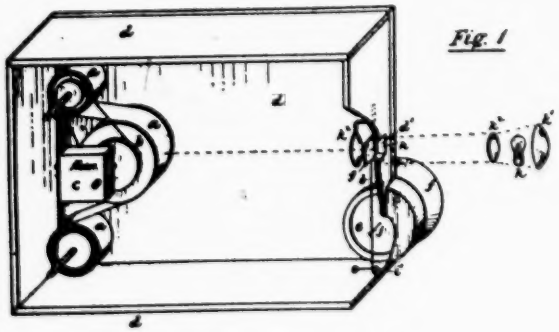

Fig. 1

H. B. BYRON.

METHOD OF MAKING PHONOGRAPHIC RECORDS.

APPLICATION FILED FEB. 19, 1912.

1,185,056. Patented May 30, 1916.

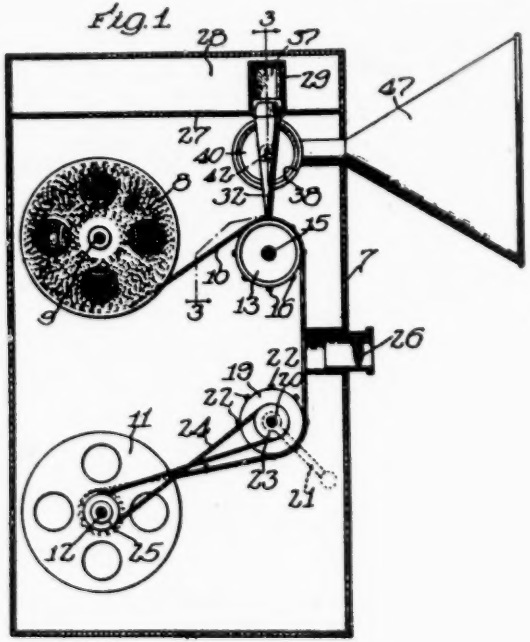

Fig. 1

HANS PEDERSEN.

METHOD OF RECORDING AND REPRODUCING SIMULTANEOUSLY MOVEMENTS AND SOUNDS.

115,942. Complete Accepted, May 30, 1918.

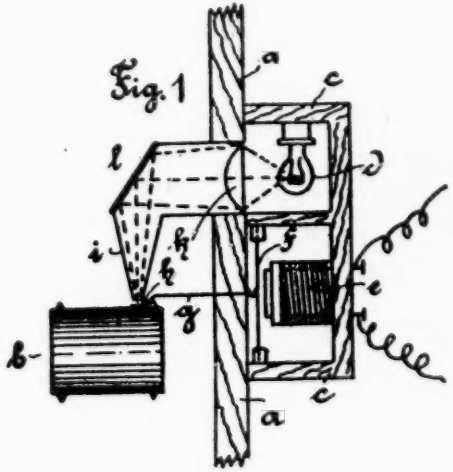

Fig. 1

18A

the translation point is at *h* on the cylinder *b* around which the film passes. Each of these patents refers to the uniformity of film motion. And, as will be pointed out later, the Pedersen patent specifies the use of a fly-wheel as the way to attain that uniformity.[1]

Before discussing the prior knowledge and practices specifically applicable to the respective claims, we direct attention to the rule established by many decisions[2] of this Court, especially in the last few years, that an alleged improvement to be patentable must involve a substantial and real exercise of the inventive faculty as distinguished from the mere application to known elements, of ordinary mechanical skill in the natural development and expansion of the art or, as expressed in the very recent decision of *Electric Cable Joint Co.* v. *Brooklyn Edison,* 292 U. S. 69, 79, "must be the result of invention, not the mere exercise of the skill of the calling and not one plainly indicated by the prior art." Judged by this standard, as we shall presently show, none of the claims here in issue defines a patentable invention.

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[1] The fact that in these three patents the sound, which is recorded photographically, is reproduced by a stylus instead of by means of light is of no importance, since each of the claims of the patent in suit in connection with which these patents are to be considered is carefully worded so as to cover either recording or reproducing, photographically.

[2] *Hollister* v. *Benedict Mfg. Co.,* 113 U. S. 59, 72, 73;
Aron v. *Manhatten Ry. Co.,* 132 U. S. 84, 90;
Grinnell Washing Machine Co. v. *Johnson Co.,* 247 U. S. 426, 434;
Concrete Appliances Co. v. *Gomery,* 269 U. S. 177, 180, 185;
Powers-Kennedy Contracting Corp. v. *Concrete Mixing Co.,* 282 U. S. 175, 185;
Saranac Corp v. *Wirebounds Patents Co.,* 282 U. S. 704, 713;
De Forest Radio Co. v. *General Electric Co.,* 283 U. S. 664, 685.

The flywheel claims (5, 7, 17, 18, and 19):

These flywheel claims are set out in full, with the amendments to them made by the disclaimer, in the Appendix to this brief, pages 1-5. The first three are apparatus claims and the last two are in the form of method claims.

Claim 5, as issued, reads as follows:

> "In phonographic apparatus in which the sound record is formed on an elongated ribbon of inconsiderable mass, having feeding perforations therein, the combination of
>
> (a) means for supporting and progressing the record ribbon from one point to another point and past an intermediate point at which the record is made on the ribbon in recording or from which the record is taken from the ribbon in reproducing, including
>
> (1) a toothed cylinder over a portion of which the ribbon passes adjacent to said intermediate point, the teeth of said cylinder engaging the perforations of the ribbon,
>
> (2) a flywheel associated with said cylinder, and
>
> (3) means for rotating said cylinder, under control of said flywheel at uniform speed."

The meaning of all this language is obvious. It comes down to nothing more than associating a flywheel with the commonly used record-carrying toothed cylinder over a portion of which a linear record passes adjacent the translation point, for improving the uniformity of record speed at that point.

Claim 17, as issued, was substantially the same as claim 5, the principal difference being that it used the word "cylinder" instead of "toothed cylinder."

Claim 7, as issued, was like claim 17, except that it included reference to the elastic coupling of Figs. 5 and 6 between the drive and the flywheel. This resilient connection is old in the phonograph art.[1] Thus the Constable

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[1] District Court's Finding No. 30, Vol. II, p. 1115.

patent 1,425,177,[1] filed in 1918,[2] shows and describes an elastic coupling between the driving shaft of a phonograph and the drum which carries the sound record. This coupling contains the springs 13, and the patent states:[3]

> "During the operation of the phonograph, even if the motor moves irregularly or vibrates to an appreciable extent, the irregular movement or vibration will not be imparted to the record support *because of the yielding character of the springs* 13, which, while they apply the necessary turning force to the record support and record, permit the said support and record to move *under the influence of their momentum with the necessary uniformity.* When the phonograph is in normal operation with the parts in motion, the stops 14 are entirely out of engagement with the head 7."[4]

In view of these prior disclosures the inclusion in claim 7 of the elastic coupling is of no importance from the standpoint of invention. Indeed, the Nullity Department of the German Patent Office held *invalid* the German patent of these patentees corresponding to Figs. 5 and 6 of the patent in suit, on the ground that "every worker in the art would naturally apply such a generally known coupling whenever the necessity of doing so arises".[5]

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[1] Vol. V, p. 1186.

[2] As noted above (p. 12), the effective date of the patentees of the patent in suit is March 24, 1921. The Constable patent did not issue till after that date, but its earlier application date is effective as establishing prior invention, *Milburn Co.* v. *Davis Bournonville Co.*, 270 U. S. 390, 401-2.

[3] Vol. V, p. 1187, lines 86-99.

[4] See also the Amet prior patent 1,221,407 of 1917 (Vol. IV, p. 1077) which shows and describes a machine for simultaneously producing "sound and picture records" in unison, in which the shaft which drives the film is connected to the shaft which drives the cylinder sound record *through an elastic coupling* shown in Figs. 2 and 3 of the patent and described at lines 1-22 of page 3 of the patent.

[5] Appendix, pp. 14, 17.

By the disclaimer these three apparatus claims (5, 7 and 17) which originally covered all linear record phonographs having the flywheel feature, were amended to cover film phonographs specifically. In addition claim 17 was amended by the disclaimer *to describe as accurately as possible the petitioners' PS-16 machine,* the amendment including *the addition* of a second sprocket for engaging the film, etc. Structurally, these additions represent merely mechanical variations, not involving any new principles or any inventive thought.

Claims 18 and 19, are in the form of method claims, and purport to cover the operation of a film phonograph which includes subjecting the film to "the control of inertia means [flywheel] to effectively eliminate irregularities in the movement of the film", in passing the translation point. This is merely another and broader way of expressing the flywheel idea covered by the apparatus claims.[1] The amendment made to these claims by the disclaimer adds the statement that the inertia control is effected by passing the film over a rotating member.

This brief analysis of the five flywheel claims brings out the fact that each of them (except claim 7 which includes also the flexible connection to the flywheel) specifies *only one* of the five elements of the supposititious "combination" which the reasoning of the Court of Appeals assumes them to cover. And it brings out also, that the gist of all of them, whether as originally phrased or as amended by the disclaimer, is *the association of a flywheel with a record-carrying cylinder*

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[1] These "method" claims may well be held invalid on the ground that they do not cover a true method, but merely the operation or function of a machine. As was said in *Risdon Locomotive Works* v. *Medart,* 158 U. S. 68, 77, "a valid patent cannot be obtained for a process which involves nothing more than the operation of a piece of mechanism, or, in other words, for the function of a machine". See also *Westinghouse* v. *Boyden,* 170 U. S. 537; *Holland Furniture Co.* v. *Perkins Glue Co.,* 277 U. S. 245.

adjacent the translation point in a film phonograph, for the purpose of improving the uniformity of speed of the cylinder, and therefore, of the record at the translation point. Respondents' contention that these claims cover the petitioners' machines in which the cylinders with which the flywheels are associated are considerably removed from the translation point,[1] requires that the word "adjacent" in this statement be construed quite loosely.

Thus, the asserted invention of these claims is realized if a flywheel or "rotating mass" is applied to the lower small cylinder of the Duddell arrangement,[2] *which cylinder corresponds closely to the one to which the flywheel is applied in the petitioners' PS-1 machine,*[3] or to the record-carrying cylinder of the Pedersen patent[4] (which, as we shall see, refers to such use of a flywheel), or of the Bock patent,[4] or of the Byron patent,[4] the record-carrying cylinder of each of these last three patents being *at* the translation point.

Was this asserted invention new with these patentees? If it was, did it constitute a patentable invention in view of the prior art? The prior disclosures and practices now to be discussed, show clearly that this was not new with these patentees, and that even if it had been specifically new, it would not have constituted a patentable invention.

Prior art invalidating the flywheel claims:

(1) *Phonographs:*

The patent in suit represents that in prior phonographs using cylindrical records, the weight of the records themselves gave sufficient momentum, when in motion, to insure the desired uniformity of speed, and that the "problem" of speed uniformity in linear record phonographs was more serious because the records were so light that they

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[1] *Supra*, pp. 12A, 12B.

[2] *Supra*, p. 16.

[3] *Supra*, p. 12A.

[4] *Supra*, p. 18A.

possessed practically no momentum.[1] *There is no such distinction.*[2]

In the Edison patent 227,679 applied for in 1879, for a cylindrical record phonograph, the weight of the record was *not* depended upon to afford the necessary momentum for securing the desired uniformity of record speed, but *"an abnormally heavy flywheel"* was applied *to the shaft of the record-carrying cylinder, at the translation point* (*i. e.* the stylus) for achieving that result. In this connection the Edison patent says[3]:

> *"In order to insure great uniformity of speed and prevent irregularity in the movement* • • • I make use of *an abnormally heavy flywheel, H,* upon the shaft of the phonograph, so as to prevent any trembling movement and to resist any tendency to increase or lessen the speed, for upon uniformity of speed of the phonet [stylus] with the phonograph depends the accuracy of reproduction, *especially in musical sounds,*[4] that depend for their tone upon the number of vibrations per second."

This original Edison phonograph is illustrated and described in the booklet entitled "Instructions For the Management and Operation of Edison's Speaking Phonograph", dated 1878, the original of which is in the Smithsonian Institute.[5] A photograph of this phonograph with its heavy flywheel is included in the booklet, the flywheel being marked 6, and described as follows:

> **"6. Heavy flywheel, to give a uniform motion. (Very important.)"**

And it was further said in the same instruction book:[6]

> *"A uniform speed is very important, especially in the reproduction of all musical tones."*

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[1] Patent, Vol. III, p. 5, lines 16-41.

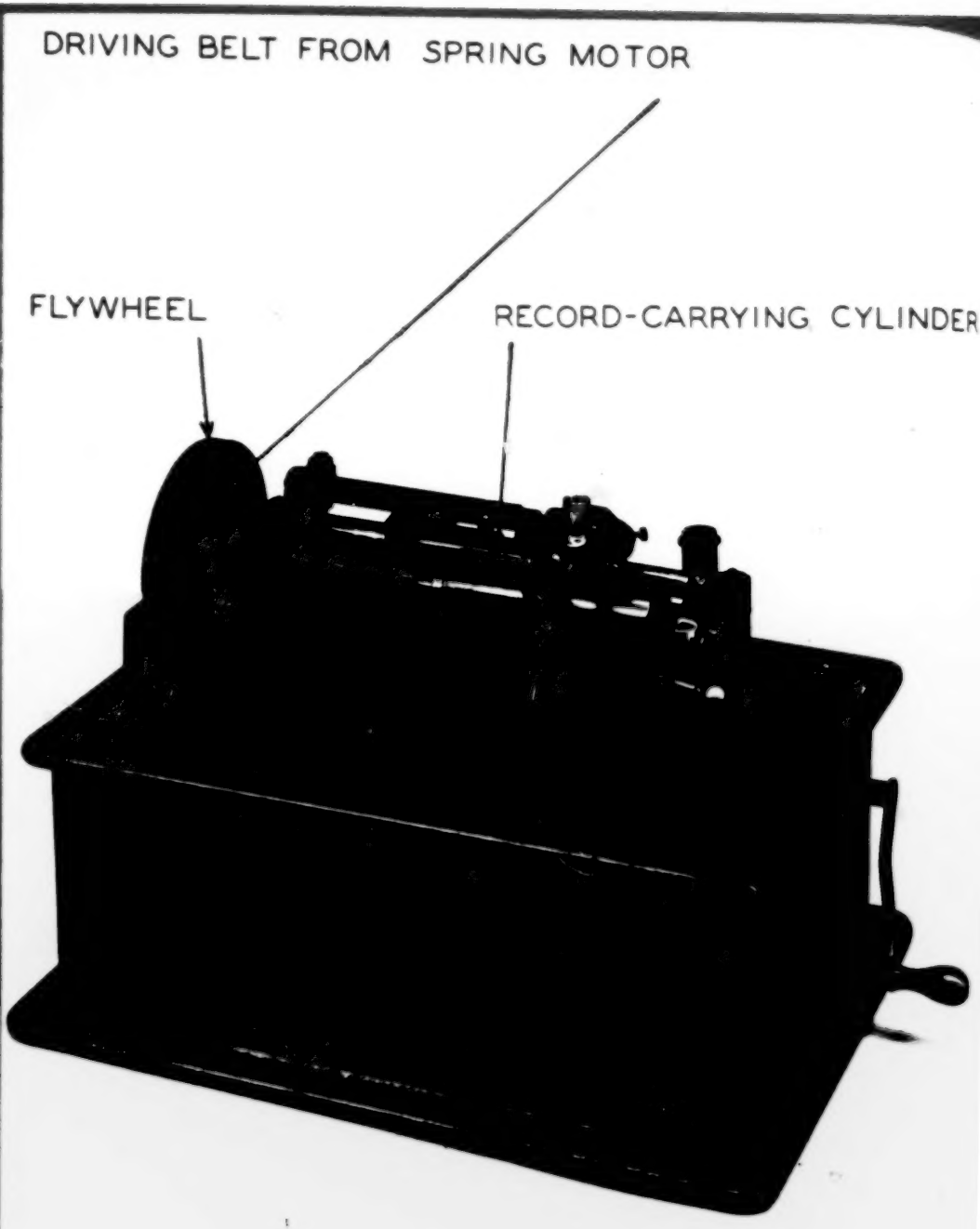
[2] Vol. II, p. 654.

[3] Vol. IV, p. 743, lines 45-57.

[4] Compare with the statement in the patent in suit at page 5, *supra.*

[5] Vol. V, p. 1621.

[6] Vol. V, p. 1628.



D. EXHIBIT 31

EDISON TRIUMPH MACHINE

There are in evidence[1] two Edison commercial recording machines for cylindrical records which were used at the Edison recording laboratory in New York considerably before 1921 for recording Edison commercial phonograph records. They are duplicate machines. Each has *a heavy flywheel mounted directly upon the shaft of the record-carrying cylinder,* which is driven through a flexible leather belt by a spring motor. These flywheels produce a high degree of speed constancy.[2] Also, this leather belt is "an ideal elastic drive because it absorbs energy while yielding"[3] and, therefore, is the clear equivalent of the flexible coupling of claim 7. On the opposite page is a photograph of one of these machines.

A phonograph very similar to this Edison commercial machine is disclosed in the Underhill patent, No. 995,390 of 1911,[4] and its flywheel g^8 (Figs. 1 and 3) is similarly located. The specification of this patent says:[5]

> "I have found a marked improvement in the quality of the sound reproduction when the rotative movement of the record is perfectly uniform and this I have also found can be attained *by increasing the mass of the parts to give a fly wheel effect thereto. To this end I preferably make use of the balance wheel g^8 of relatively great mass compared with that of the record and here shown secured to the driving sleeve g to rotate therewith and impart thereto a steadiness and uniformity of movement.*"

The earliest disclosure of a flywheel used in conjunction with a phonograph for recording sound photographically dates back to Alexander Graham Bell, who in 1886, as a joint patentee with his brother, C. A. Bell, and Sumner Tainter, took out patent No. 341,213.[6] The

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[1] D. Exs. 31 and 155.

[2] District Court's Finding 16, Vol. II, pp. 1105, 1106.

[3] Vol. II, p. 673.

[4] Vol. IV, p. 957.

[5] Vol. IV, p. 959, lines 18-29.

[6] Vol. IV, p. 757.

sound was photographically recorded on a photographic plate rotated at uniform speed under the control of a flywheel 8, described as such on page 2, line 56 of that patent. Moreover, these patentees obtained in this 1886 patent the combination claim quoted below.[1] In the same year C. A. Bell and Tainter were granted patent No. 341,214[2] for "Recording and Reproducing Speech and Other Sounds", which contains the earliest disclosure of a flywheel used in conjunction with a linear record phonograph. The *linear* record which these patentees employed was a wax-coated paper strip upon which the sound waves were impressed. They used a large flywheel, numbered 8 in Figs. 18 and 19 and in others of the figures and described as such at page 3, line 48, page 4, line 23 and page 5, line 68 of the patent. The original machine of this Bell & Tainter patent is in the Smithsonian Institute.[3] Photographs of it are in the Record.[4]

This Bell & Tainter patent for a *linear record phonograph* anticipates in substance the flywheel claims of the patent in suit. It is unimportant that the Bell & Tainter linear record is not of the particular photographic film type to which those claims, as amended by disclaimer, are directed. The patent in suit establishes that fact, by classing together all forms of linear record with regard to the "problem" to which the patent is directed and the "solution" of that problem. The Bell & Tainter

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[1] "24. The apparatus for recording sound-vibrations *photographically*, consisting of the following elements in combination, namely: *the condensing-lens, the plate or block provided with a slit, the means for varying the quantity or intensity of the energy transmitted through said slit, the recording-tablet, the lens for projecting an image of the slit on the tablet, and the mechanism* [flywheel] *for giving a uniform surface-speed to the tablet under said image, substantially as described.*"

[2] Vol. IV, p. 770.

[3] Vol. II, p. 819, and Vol. V, pp. 1575, 1579.

[4] Vol. V, pp. 1601-1605.

flywheel 8, while not mounted directly upon the shaft of the record-carrying cylinder, is "associated with" it, quoting from claim 5, and serves to render uniform the speed of that cylinder and of the record carried by it.[1]

The next of the linear record prior patents is the Dragoumis French patent 472,467 of 1914[2] for *"Phonograph Utilizing Thin and Flexible Bands or Films as Phonogram Supports"*. It describes the sound waves as impressed or indented in the band and shows the band as being wrapped around two-thirds of the periphery of a cylinder fast on a shaft carrying a large wheel which obviously acts as a flywheel though not described. As this Court said with reference to a prior patent, in the *American Road Machine Case,* 164 U. S. 26, 38:

> "• • • The wheel is not described in the specifications as a momentum wheel, but, *as it is such in fact,* this is not material."

Here, then, is an instance of *a linear record phonograph having a flywheel mounted on the shaft of the record-carrying cylinder at the translation point. It too anticipates in substance the flywheel claims in suit.* For the reasons just stated it is not material that Dragoumis used a different *type* of linear record than that now specified in the claims.

Next is the Pedersen British patent of 1918,[3] to which we have already referred. The recording machine of this patent, which is illustrated at page 18A, *supra,* is a *film phonograph,* the record being made *photographically upon a sensitized film.*[4] The record is carried by a cylinder as it passes the translation point, just as in most of the Figures of the patent in suit.

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[1] Vol. II, p. 651.

[2] Vol. V, p. 1379.

[3] Vol. V, p. 1346.

[4] Pedersen's sound reproduction is made by a stylus on the same machine.

How like Edison's statements of many years before[1] is this sentence from the Pedersen patent:[2]

> "The sound is exceedingly sensitive to variation in rotating speed as will be noticed in any gramophone, and it is necessary to obviate this specially during the producing and the reproducing operations by providing **particularly large flywheels** for example."

And how like the patent in suit!

Since Pedersen mentioned the flywheel merely as an example of the means that could be used for obtaining speed uniformity he did not show a flywheel in his drawing. But, to a man skilled in the art, Pedersen's disclosure could only mean the very thing that is covered by the claims now under discussion, namely, the application of a flywheel to the shaft of the record-carrying cylinder shown in Pedersen's drawing. For Pedersen says that the "recording of the sound waves should be done at a position *where the film receives uniform motion,* for example on the delivery drum or feed reel" which is a *"uniformly rotating transmitting drum • • • moved at constant velocity."*[3] And he *shows* the translation point on that drum.[4] It is obvious from this disclosure that the place to put the Pedersen flywheel is on the shaft of that uniformly rotating drum—particularly in view of the earlier art such as Edison. Thus the gist of the inven-

[1] *Supra,* p. 24. [2] Vol. V, p. 1347, lines 29-32.

[3] Vol. V, p. 1347, lines 22-24, 25, 50 and line 6, p. 1348.

[4] The Pedersen specification states that in reproducing, "the film should be well pressed down at the particular place by rollers" (lines 41, 42, p. 1347), meaning rollers similar to those shown at *e g* of Fig. 4 of the patent in suit, which apparently are implied in the wording of claim 19. Similar pressure rollers are shown in each of the following patents: Kher German patent 141,634 of 1903, rollers *h,* Figs. 1 and 2, Vol. V, p. 1389, translation p. 1392; Randall 502,382, of 1893, roller 10, Fig. 2, Vol. IV, p. 848.

tion of the flywheel claims of the patent in suit is disclosed in the Pedersen patent even as applied to *the particular type* of linear record that is now specified in all of these claims.

In view of the above we assert that *the flywheel claims are anticipated in substance by the Bell & Tainter and Dragoumis patents, and specifically by the Pedersen patent.*

But even if these prior disclosures were held insufficient to anticipate these claims, the claims would still be invalid for lack of invention. One of the respondents' own exhibits[1] says:

> "A flywheel is the *classical* and unexcelled means of obtaining *uniform rotation.*"

Edison and other early workers in the phonograph art not only made use of this "classical and unexcelled" device, but *they applied it to the phonographs of various kinds,* with which they were dealing, *in exactly the manner in which these patentees have applied it, namely, by associating it with a record-carrying cylinder at the translation point.* There is no difference in principle or mode of operation whether the record used is Edison's cylindrical record, or the waxed ribbon of Dragoumis, or the film of the patent in suit. In each case, the record as it passes the translation point, is carried by and held firmly on the cylinder. And in each case the record speed is made uniform at the translation point because and only because the flywheel which is applied to the cylinder imparts uniformity to the speed of the cylinder.

Accordingly, it did not amount to invention in 1921, the effective application date of the patent in suit, to improve the uniformity of record speed in film phonographs, such, for example, as those of Duddell,[2] Bock,[3] Byron[3] and Pedersen,[3] by applying the classical and ancient flywheel

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[1] Vol. III, p. 421.

[2] *Supra,* p. 16.

[3] *Supra,* p. 18A.

to the record-carrying cylinder, even if it should be held that Pedersen failed to disclose that very thing.[1] *The flywheel claims of the patent in suit are invalid on that account.*

In this connection it is significant that *as far back as 1879, the Patent Office refused to grant Edison a claim for mounting a flywheel on the shaft of a phonograph cylinder.* Upon filing his application for his patent Edison made the following claim:[2]

> "The combination with the phonograph cylinder and its shaft, of *a flywheel,* substantially as and for the purposes set forth."

But this claim was never allowed. It was rejected by the Patent Office Examiner in the first action, dated April 7, 1879, the Examiner holding:[3]

> "The 1st claim of this application covers *a mere double use of a flywheel* as ordinarily used with

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[1] Indeed, referring to the Bock patent, for example, the record-carrying cylinder *b* is obviously of such weight as to provide substantial momentum. The patent in suit says that the record-carrying cylinder "can be constructed so as to be *itself* the rotating mass" (p. 2, lines 22, 23). The mere addition of weight to the Bock cylinder, constituting at most a change in degree only, would produce the alleged invention of these claims.

This very point was decided in the *American Road Machine Case,* 164 U. S. 26, as follows (p. 41):

> "To make the hand-wheels heavier was to increase their capacity, but the same end was accomplished by substantially the same means. The means were old, and their enlargement by a common method to attain a better result in the particular instance merely carried forward the original idea, and was nothing more than would occur to the experienced mechanic.
>
> • • • • • •
>
> "The substitution of the heavier wheel was not the product of a creative mental conception."

A difference in degree is not invention, *Smith* v. *Nichols,* 88 U. S. 112, 119; *Railroad Co.* v. *Elyria,* 244 U. S. 285.

[2] D. Ex. 73, p. 12.

[3] D. Ex. 73, p. 15.

> machinery for the purpose of securing uniformity of motion. The 1st claim is rejected for lack of invention."

And upon reconsideration, the claim was again rejected as follows:[1]

> "It must still be held that *the mere application of a flywheel to a phonograph* involved but the exercise of ordinary good judgment and did not require invention. The 1st claim must be accordingly a second time rejected."

Edison then cancelled the claim. *The absurdity of the situation is that, fifty years later, the respondents were granted claims for the use of a flywheel for the same purpose in merely another form of phonograph.*

As long ago as 1896 in the *American Road Machine Case* (*supra*, p. 26), this Court held a patent, for *the combination of a flywheel* in a road machine, invalid for want of invention. This Court said (pp. 33, 34):

> "And it is with reference to the momentum feature, treated as an element in all the claims, that the case must be disposed of.
>
> • • • • • •
>
> "The knowledge was common that when a continuous power is applied, but the resistance to be overcome is unequal, a fly or balance-wheel will store some of the power expended during the operation and not needed at one stage, and give it out at another."

And, (p. 39):

> "The law of nature was familiarly understood that any moving body tends to continue in motion with a force proportionate to its speed and weight; and it was well known that the function of flywheels and balance-wheels was, in the language of Mr. Brevoort, 'to absorb energy when the machine is moving at greater speed with the least resistance, and to give it out again when the parts meet with greater resistance.'"

It is submitted that the flywheel claims here in suit should meet the same fate.

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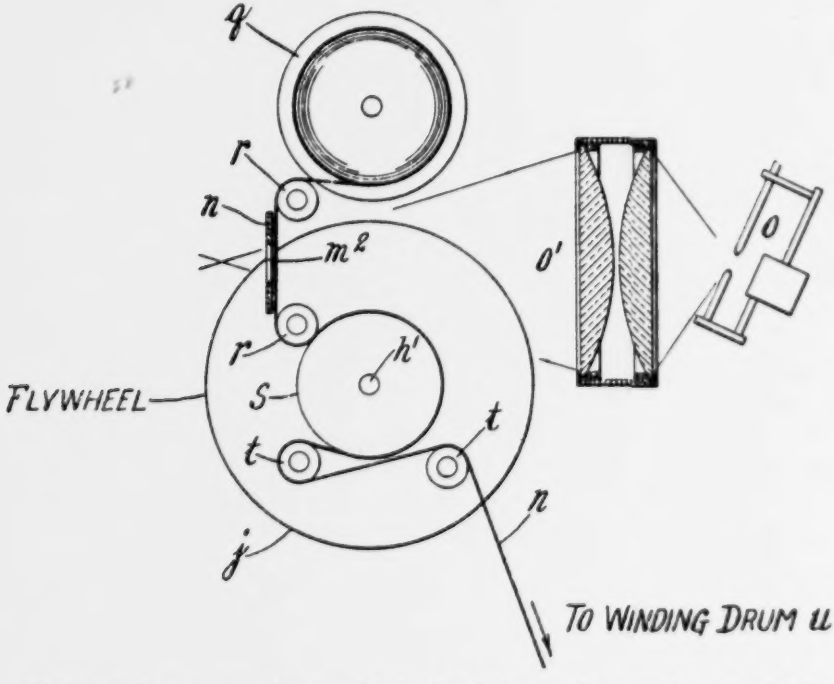
[1] D. Ex. 73, p. 17.

(2) *Projectors:*

Not only was the flywheel an old expedient in the phonograph art, for securing uniformity of speed of sound records, but it was also an old expedient in the motion picture projector art, for securing uniformity of speed of picture records, or films. Of the early disclosures of flywheels in the latter art, we shall refer only to the Holst patent of 1897.[1] There are two well known types of motion picture projectors, one in which the film is moved intermittently past the projecting aperture, and one in which it is moved continuously past the projecting aperture, the proper optical effect being produced by a moving lens arrangement.[2] The Holst patent is of this latter type.

Fig. 1 of the Holst drawing[3] shows generally the means for feeding the film. To assist in reading that drawing, we reproduce below a diagram indicating the course of travel of the film past the projecting aperture:



Holst's lens carrier, which is driven from the shaft h' is omitted from this diagram.

[1] Vol. IV, p. 896.

[2] Vol. II, p. 682.

[3] Vol. IV, p. 896.

Referring either to this diagram or to Fig. 1 of the patent drawing,[1] the film passes from the drum *q*, over the guide roller *r*, past the projecting aperture m^2, over the second guide roller *r*, then around the "feed wheel" or cylinder *s*, then over the guide rollers *tt* and onto the winding drum (*u*). The patent states that if desired, the cylinder *s* may be provided with "pins or points engaging the edges of the band."[2]

In Fig. 2 of the patent drawing,[3] and in the above diagram, is shown *the flywheel j*, which, according to the patent specification, is "*attached to the shaft h'* [*i. e.*, the shaft of the film-carrying cylinder *s*] *for obtaining regularity of movement.*"[4]

Thus this old patent of 1897 shows a flywheel used in a projector, *in exactly the same way, and for exactly the same purpose as the flywheel* in the film phonograph of the patent in suit and in the alleged infringing film phonographs. The identity of these uses is emphasized by considering the flywheel claims of the patent in suit in connection with this Holst construction. Take, for example, claim 5 of the patent in suit, the three structural features of which are as follows:[5]

(1) A toothed cylinder over a portion of which the ribbon passes adjacent to said intermediate point, the teeth of said cylinder engaging the perforations of the ribbon,

(2) a flywheel associated with said cylinder, and

(3) means for rotating said cylinder, under control of said flywheel at uniform speed.

The cylinder *s* of the Holst machine, which may be provided with "pins or points engaging with the edges of

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[1] Vol. IV, p. 896.

[2] Vol. IV, p. 901, lines 32, 33.

[3] Vol. IV, p. 898.

[4] Vol. IV, p. 901, lines 74, 75.

[5] Appendix, p. 1.

the band", is the "toothed cylinder" of feature (1). Holst's film, or ribbon *n* passes over a large portion of this cylinder. His cylinder is located "*adjacent* to said intermediate point", just as truly as are the cylinders in the petitioners' machines,[1] of which complaint is made. In phonographs the "intermediate point" is the translation point; in projectors it is the projecting aperture.

Holst's flywheel *j* is the flywheel of feature (2) of the claim. It is associated with the cylinder *s*, in exactly the manner shown in Figs 1-4 of the patent in suit, namely, by being secured to the cylinder shaft. Holst's means for rotating the cylinder, feature (3), are described by him as "a small electric motor * * * applied to the apparatus through the medium of a belt * * *."[2]

Thus the film feeding means of the patent in suit are anticipated completely by the Holst patent. That in one case they are applied to feeding a picture record film through a projector at uniform speed, and in the other are applied to feeding a sound record film through a phonograph, is not an inventive difference. The reference in the claims to phonographic apparatus merely "defines the useful purpose to which the patentee intended his device to be devoted".[3]

Holst's film feeding means are, of course, applicable to film phonographs as well as to projectors. For example, they could be transplanted bodily to the film phonograph of the Duddell patent[4] (which issued in 1902, five years after the Holst patent), and there used as the "well known means" to which Duddell refers for winding the film "steadily and uniformly"[5] from one drum to another.

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[1] *Supra*, pp. 12A, 12B.

[2] Vol. IV, p. 901, lines 77-79.

[3] *Frederick R. Stearns & Co.* v. *Russell*, 85 Fed. 218, 224 (C. C. A. 6; opinion by Taft, *C. J.*).

[4] *Supra*, p. 16.

[5] *Supra*, p. 15.

Indeed, in the petitioners' PS-1 machine the film feeding means complained of as an infringement, are substantially those disclosed by Holst, as will appear from a comparison of the drawings on pages 12A and 32 of this brief.

This Court said in *Pennsylvania R. Co.* v. *Locomotive Engine Safety Track Co.*, 110 U. S. 490, 494:

> "It is settled by many decisions of this court, which it is unnecessary to quote from or refer to in detail, that *the application of an old* process or *machine to a similar or analogous subject, with no change in the manner of application, and no result substantially distinct in its nature, will not sustain a patent,* even if the new form of result has not before been contemplated."

And in the more recent decision of *Powers-Kennedy Contracting Corporation et al.* v. *Concrete Mixing and Conveying Co.*, 282 U. S. 175, 186, this Court reiterated and applied this rule that "the use of an old apparatus or appliance for a new purpose" is *not* invention.

In view of the absolutely analogous uses to which the old film feeding means in question are applied, in projectors and in film phonographs, *the use of those means in the latter cannot be the subject of a valid patent.*

This affords an additional reason for holding the respondents' flywheel claims invalid.

Thus these flywheel claims are invalid for anticipation and for lack of invention because of prior disclosures and practices in the phonograph art, and are invalid for lack of invention over the early Holst disclosure in the picture projector art. The principles relating to uniform motion and its attainment by the use of heavy rotating masses or flywheels were thoroughly understood years ago and their application had become merely a routine matter in machine design. The patentees of the patent in suit merely used these old principles in their machines. To do so was not invention, *De Forest* v. *General Electric Co.*, 283 U. S. 664, 678, 679.

The "arcuate flexing" claim (claim 9):

This claim,[1] it will be remembered, was presented *as an afterthought, following the commercialization of talking motion pictures, and more than six years after the application for the patent in suit was filed.*[2] It covers the operation of any film phonograph in which the film is flexed "arcuately longitudinally at the point of translation." The patent specification contains no reference to this feature, and no indication that arcuate flexing, *per se*, performs any useful function. It is merely a "word invention" of the patentees' solicitors.

If any basis for this claim 9 is to be found in the application it is only in Figs. 2-6 of the patent drawings, and there only because in those Figures the patentees have adopted the very common prior art practice of having the record carried by a cylinder as it passes the translation point. It is significant that the patentees made no provision for "arcuate flexing" in their Fig. 1 construction in which the record is *not* carried by a cylinder as it passes the translation point.

Prior art invalidating claim 9:

The practice of having the record carried by a cylinder as it passes the translation point, and therefore the "arcuate flexing" of this claim, is found in the film phonographs of the Bock,[3] Byron[3] and Pedersen[3] patents to which we have already alluded. Accordingly this claim, as issued, is anticipated by each of these prior patents.

In addition, this claim, if construed to cover the stationary curved film gate of the petitioners' machines,[4] is anticipated by the Terwilliger patent No. 1,256,613[5] which discloses, for use in motion picture projectors, substantially the petitioners' gate. Whereas the specification of

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[1] Appendix, p. 5.
[2] *Supra*, p. 9.
[3] *Supra*, p. 18A.
[4] *Supra*, pp. 12A, 12B.
[5] Vol. IV, p. 1098.

the patent in suit contains no suggestion of any advantage or function to be derived from "arcuately flexing" the film, the Terwilliger patent emphasizes the fact that by the use of its gate there is provided "a uniform backwardly curved or convexed film portion"[1] opposite the aperture for the light, and that "side buckling or warping" of the film is thus prevented.[2] This latter result is the one *now* attributed by the respondents to the "arcuate flexing" of their patent.

The disclaimer added the flywheel to this claim,[3] thus making the claim total but *two* of the five elements imputed to it by the decision of the Court below. Since, as previously pointed out, it would not be invention to apply a flywheel to the record-carrying cylinders of the Bock and Byron patents, and since the Pedersen patent contemplates a flywheel on its record-carrying cylinder, the disclaimer amendment does not patentably distinguish this claim from the prior art, or inject any novelty into it.

Furthermore, the "arcuate flexing" functions in exactly the same way irrespective of whether the film speed has the higher degree of uniformity that would result from the use of a flywheel; and the effect of the flywheel is the same whether or not the "arcuate flexing" is availed of. Therefore, the bringing together of these two old elements would not be invention[4] even if these patentees had been the first to do it—which they were not.

Claim 9 is invalid both as issued, and as amended by disclaimer.

The optical claim (claim 13):

As already pointed out this claim,[5] also, was a very tardy afterthought. As issued, it purports to cover merely the bringing together of (1) a particular arrangement for

[1] Vol. IV, p. 1099, lines 100-106.

[2] Vol. IV, p. 1100, lines 12-23.

[3] Appendix, p. 5.

[4] See authorities, *infra*, pp. 44, 45.

[5] Appendix, p. 6.

projecting a narrow line of light upon the film record, namely, an "optical slit" system which is not adequately disclosed in the patent, and (2) a particular kind of light sensitive device for responding to the variations in the light which penetrates the film, namely, a photoelectric cell *which is not even mentioned in the specification.*

It was not until December 1928, after the optical slit and the photoelectric cell had been adopted commercially, and after RCA Photophone Inc. (*defending this suit*) had placed on the market its machines employing these devices, that the patentees introduced any claim, such as this claim 13, in which these devices were claimed as a part of the alleged invention. At that late date the applicants pointed out for the *first* time that they were claiming an "optical slit" as distinguished from a "physical slit" and a photoelectric cell as distinguished from other light sensitive devices.[1]

Prior art invalidating claim 13:

That the light should be thrown on the film in the form of a narrow line of light, was definitely known and practiced long prior to these patentees. In some instances, as illustrated in the Ries patent,[2] the narrow line was formed by light passing through a narrow slit 67 in a piece of metal near the film. That is known as a "physical slit". In other instances the light was focused on the film in the form of a very narrow line by a system of lenses with or without the aid of a slit included within the system. This is known as an "optical slit" and is what petitioners use.

The respondents assert that claim 13 involves an optical slit system as distinguished from a physical slit. As a matter of fact, the patent in suit discloses neither of these old and conventional means for producing the requisite fine line of light on the film. Such disclosure as it does contain in this connection is wholly inadequate.[3]

[1] Vol. III, pp. 84-88.

[2] Vol. V, p. 1232; *supra,* p. 17.

[3] Vol. I, pp. 440-442, x-Qs. 403-418.

The optical slit was fully shown and described in the British Duddell patent No. 24,546 of 1902,[1] as the District Court found.[2] [3]

Another prior disclosure of an optical slit arrangement, as found by the District Court,[2] is contained in the Rankine paper[4] appearing in the Proceedings of the Physical Society of London, published in March, 1920.[5] Fig. 3 from that Paper[6] is reproduced below:

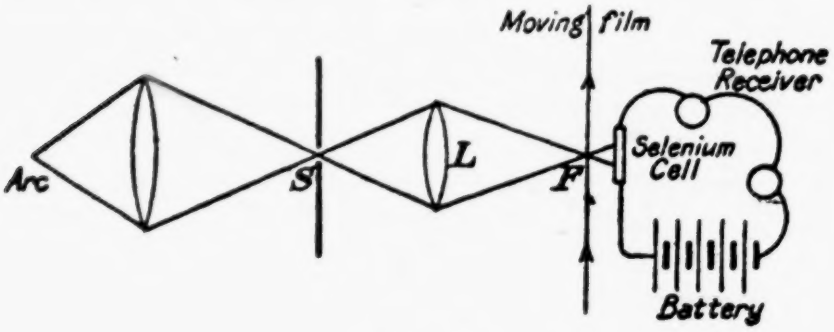

FIG. 3.

Here, as in the petitioners' arrangement, there is a slit within the lens system. The text refers to this Fig. 3 as follows:

> "A convenient arrangement is shown in Fig. 3, where the light from the arc illuminates the horizontal slit S, and the lens L produces an image of the slit on the film at F."

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[1] Vol. V, p. 1338, lines 27-32; *supra,* p. 16.

[2] Finding No. 29, Vol. II, p. 1114.

[3] The fine slit *d'* shown adjacent the film in the Duddell drawing (*supra,* p. 16) is merely something that Duddell says he may "sometimes find it advantageous to employ * * * to improve the definition and firmness of the line of light" (Vol. V, p. 1338, lines 31, 32). Duddell's optical slit was obtained by the employment of cylindrical lenses, and without the inclusion of a slit within the lens system.

[4] Vol. V, pp. 1399-1403.

[5] Vol. II, p. 841.

[6] Vol. V, p. 1402.

Comparison of Rankine's Fig. 3 with the drawings of the petitioners' machines,[1] shows that the petitioners' optical slit system is, to all intents and purposes, the same as Rankine's.

Turning now to the light sensitive element of claim 13, there are various kinds of light sensitive devices which may be used in these sound reproducing machines. One kind is a "selenium cell" used by Ries in his patent[2] and by Rankine. Another kind is what is known as a "photoelectric cell".

The drawings of the patent in suit may intend the part marked *z* to be a photoelectric cell. But no point of it is made in the specification. The term "photoelectric cell" does not appear at all. The part *z* is referred to variously as a "light sensitive cell"[3] or a "photo-cell",[4] either of which terms would include a selenium cell as well as a photoelectric cell. It is obvious that when the applicants filed their application in 1922 without even mentioning a photoelectric cell, *they had no idea that in 1928 they would be presenting claims in that application for inventive novelty based upon the use of a photo-electric cell as the light sensitive element in sound reproduction.*

Such photoelectric cells are shown and described for use in various connections in the Langmuir patent 1,273,627 of 1918;[5] and in the Hull patent 1,313,187 of 1919.[6] They are shown, also, in the Kunz patent 1,381,474, filed in 1918, where it is said:[7]

> "There has been an increasing demand in various arts for an accurate and sensitive photo-electric cell.

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[1] *Supra*, pp. 12A, 12B.

[2] Vol. V, p. 1242, line 11.

[3] Vol. III, p. 5, line 102.

[4] Vol. III, p. 6, lines 49 and 118.

[5] Vol. IV, p. 1129, line 52.

[6] Vol. IV, p. 689, lines 52, 56-57.

[7] Vol. V, p. 1167, lines 17-25.

> Heretofore selenium has been employed but the selenium cell,—at least as heretofore constructed—has not been sufficiently sensitive, nor are its characteristics suitable for careful work.
>
> "My invention aims to provide a cell which shall meet this demand."

Then, after referring to his photoelectric cell, Kunz says:[1]

> "A cell of this type when properly constructed is characterized by great sensitiveness, uniform sensitiveness over a wide range of light intensities or impressed voltages, not subject to change by aging, *rapidity of action,* and as I have found by experiment, a straight line characteristic curve."

And Kunz further says:[2]

> "* * * *the response of the cell to the light action should be instantaneous* and in proportion to the intensity. This I have been able to accomplish by the cell of my invention."

That is, the photoelectric cell responds instantaneously to variations in light intensity—there is no lag or inertia to delay response.

Such a photoelectric cell was used by Hoxie of the General Electric Company in his film phonograph on March 8, 1921, in producing his sound-on-film record which is in evidence.[3] It is shown in Hoxie's sketch of December 12, 1920,[4] which was made preliminary to the construction of his film phonograph. As previously pointed out, it was from this work of Hoxie's that the petitioners' machines were derived.[5]

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[1] Vol. V, p. 1167, lines 44-50.

[2] Vol. V, p. 1168, lines 118-121.

[3] Vol. I, pp. 605-8.

[4] Vol. IV, p. 702.

[5] *Supra,* p. 12.

Also, Duddell, in his British patent of 1902,[1] while disclosing a selenium cell as the light sensitive element of his system,[2] takes pains to point out:[3]

> "In the place of the selenium I can also use *other photo electric apparatus,* the electrical connections of the reproducing circuit being suitably modified."

The Nullity Department of the German Patent Office[4] held *invalid* German patent No. 417,967[5] of the patentees of the patent in suit, for the use of a photoelectric cell in reproducing sound from film. In doing so it referred, *inter alia,* to the French patent No. 456,880 of 1913,[6] which describes *photographic sound reproduction from a film* and says:

> "Finally, the receiver may be any body whatever having photo-electric properties, a potassium *photo electric cell* for instance or a cell made with any other metal having the same property."[7]

Claim 13 of the patent in suit covers, in fact, the Rankine system illustrated above, with a photoelectric cell substituted for the selenium cell. In view of the above discussed prior disclosures and uses of photoelectric cells even in this very art and for this very purpose, this, obviously, did not constitute invention or even novelty.

Here again, recognizing the absence of invention in the originally issued claim, the respondents amended it by

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[1] Vol. V, p. 1335.

[2] *Supra,* p. 16.

[3] Vol. V, p. 1338.

[4] Appendix, p. 18.

[5] Vol. V, p. 1569.

[6] Appendix, p. 32.

[7] The quotation continues:

> "At present, however, the best receiver known is that which is known under the name of selenium cell."

At that time (1913) the selenium cell was to be preferred to the photoelectric cell, because the vacuum tube amplifiers needed for amplifying the relatively feeble response of photoelectric cells had not been developed (Vol. II, pp. 687, 927).

disclaimer at the last minute to bring in the very old flywheel. This is an extreme case of claiming a list of old elements in an attempt to give the appearance of novelty, where none in fact exists.

This does not create a *new combination.* The general combination was old, in the Duddell patent, or in the Rankine article, for example. Each of these had (1) means for projecting a line of light on the film; each of them had (2) a light sensitive device to be illuminated by that line of light; and each of them referred to (3) means for advancing the film at a uniform rate. Therefore, these two prior disclosures alone foreclosed any inventive novelty by these patentees *in the alleged combination.* The field for improvement was reduced to the *particular elements* of the combination.

As we have seen, these patentees made no improvement in any of those elements, nor did they give any information as to their construction. The "optical slit" was old, even in Duddell and Rankine; the photoelectric cell was old; and the flywheel was an old means for giving the desired uniformity of record speed; all used for the same purposes and in the same way as in the patent in suit. So the claim is devoid of novelty either in the alleged *combination,* or in any of its elements.

Furthermore none of the three elements covered by this claim as amended, co-acts with any of the others in a patentable sense. The optical slit system performs merely its usual old function of projecting a narrow line of light upon the film. It is unconcerned whether the light sensitive device which receives the light is of one kind or another, or whether the film propelling means has a flywheel attached to it or not. So also the light sensitive device does its duty, without knowing or caring whether the light which strikes it after penetrating the film, has been confined at the film by a "physical slit" or by an "optical slit" system. And the old flywheel continues to perform just as it did for Edison over fifty years ago, irrespective of

the nature of the light projecting means or of the light sensitive device, and in fact, irrespective of the nature of the record used or of the method of translation employed. The assembling of these three old elements did not require any inventive skill. The assemblage does not constitute a patentable combination.

Combinations of old constituents to be patentable must produce new and useful results which are the product of the combination, and not a mere aggregate of their several results. There must be either a new machine of distinct character and function, or a new result produced *due to the joint and cooperating action of the elements,* and which is not the mere adding together of separate contributions. Otherwise, it is only a mechanical juxtaposition and not a vital union. *Pickering* v. *McCullough,* 104 U. S. 310, 318.

In *Hailes* v. *Van Wormer,* 20 Wall. 353, 368, it was said:

> "Combined results are not necessarily a novel result nor are they an old result obtained in a new and improved manner. Merely bringing old devices into juxtaposition, and there allowing each to work out its own effect without the production of something novel, is not invention."

In the *Grinnell Case,* 247 U. S. 426, a patent for the driving mechanism of a washing machine and wringer was held invalid. After reviewing the earlier decisions, this Court said (pp. 433, 434):

> "Applying the rule thus authoritatively settled by this court, we think no invention is shown in assembling these old elements for the purposes declared. *No new functions is 'evolved from this combination;' the new result, so far as one is achieved, is only that which arises from the well-known operation of each one of the elements.*
>
> "In the gearing specified every element is old. The operations of the wringer and the washing machine, although simultaneous, are independent one of the

other. The control of the operation of the wringer is by an old and well-known method. *From the co-operation of the elements, here brought together, no new result, involving the exercise of the creative faculty which is invention, is achieved.*"

Applying this test to the elements of this claim 13, it cannot fairly be denied that the flywheel performs only the known function of a flywheel; the optical slit, only the known function of an optical slit; and the photoelectric cell, only the known function of a photoelectric cell. And when we say "known function", we mean known in this very art of film phonographs. *The only result achieved is that which "arises from the well-known operation of each one of the elements", and "no new function is 'evolved from this combination'".*

In *Powers-Kennedy Contracting Corporation, et al.* v. *Concrete Mixing and Conveying Co.*, 282 U. S. 175, 186 it was held:

> "For these reasons we find that the patent is invalid. It consists of a combination of elements all of which were old in the art. Its application to the transportation of concrete did not involve invention. Neither the combination of old elements or devices accomplishing no more than an aggregate of old results (*Hailes* v. *Van Wormer*, 20 Wall. 353; *Office Specialty Mfg. Co.* v. *Fenton Metallic Mfg. Co.*, 174 U. S. 492; *Grinnell Washing Machine Co.* v. *E. E. Johnson Co.*, 247 U. S. 426) nor the use of an old apparatus or appliance for a new purpose (*Roberts* v. *Ryer*, 91 U. S. 150), is invention."

Thus, as is the case with all of the other claims in suit, claim 13 was invalid as issued, and is invalid as amended by the disclaimer, because it is wholly lacking in invention.

The patentees of the patent in suit contributed nothing to the art. The only accomplishment for which the patent stands is that of the patent solicitors who conducted the

long prosecution of the application through the Patent Office, and who, nearly seven years after the application was filed, presented and secured claims for old tools of the art, which in the meantime, had gone into extensive commercial use.

The following comment made by this Court in *Railway Co.* v. *Sayles,* 97 U. S. 554, 556, is applicable here:

> "Courts should regard with jealousy and disfavor any attempt to enlarge the scope of an application once filed, or of a patent once granted, the effect of which would be to enable the patentee to appropriate other inventions made prior to such alteration, or *to appropriate that which has, in the meantime, gone into public use.*"

POINT II.

The erroneous conclusion of the Court of Appeals on the preceding point flows directly from its mistaken assumptions (a) as to the nature of the asserted invention, (b) as to the novelty in the film phonograph art of the various features involved, and (c) as to the patentees' contribution to the commercial success of talking pictures.

(a) The Court passed upon a "combination" invention not claimed in this patent.

The decision below,[1] after first referring to five separate features or elements of the film-phonograph of the patent in suit—namely (1) the photoelectric cell, (2) the "arcuate flexing", (3) the flywheel, (4) the flexible connection for the flywheel, and (5) the "optical slit"—*proceeds throughout on the assumption that the patent is for a "combination" of these five elements.*

Following its reference to these five elements, the Court said:

> "The prior art does not disclose *this combination* nor the result which it produced.[2]
>
> • • • • • •
>
> "No one before the patentees was able to bring together all the elements of the patent into a successfully operative *combination.* • • • It is well settled that a *new combination,* every element of which is old, is patentable if it produces a new and useful result,[3] • • •."

And in the two or three pages where the Court is discussing the question of patentability, it refers thus in no less

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[1] Vol. II, p. 1156.

[2] Vol. II, p. 1162.

[3] Vol. II, pp. 1162, 1163.

than ten different places to the supposed invention as consisting of this "*combination*".

Nothing could be farther from the fact. It takes but a reading of the patent, and particularly of the claims here in suit, to show that *these patentees neither described nor claimed as their invention any such combination.*

As previously pointed out, of the seven claims relied upon:

> (1) Four (numbers 5, 17, 18 and 19) include but *one* of the elements of the Court's supposed combination, namely, *the "flywheel"!* And a fifth (claim 7) covers, in addition, only the flexible flywheel connection.
>
> (2) One claim (number 9) contained but *one* of those elements as issued by the Patent Office, namely, the "*arcuate flexing*". By the disclaimer another was added, the "flywheel",—*a total of two at best!*
>
> (3) The other claim (number 13) contained *two* of the elements as issued by the Patent Office, namely, the "*optical slit*" and the "*photoelectric cell*". By disclaimer the "flywheel" was added;—a *total of but three* out of the five elements!

There is, of course, no possible justification for such a rewriting of the patent by the Court. Its duty was to *consider the asserted invention as claimed by the patentees* and pass upon the patentability of *that* invention, not some synthetic or imaginary one. As this Court said in *White* v. *Dunbar,* 119 U. S. 47, 52:

> "The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms."

Nowhere in the Court's decision does it pause to take up any one of the claims asserted to be infringed and compare *it* with the admitted prior art to see whether it covers anything new or whether it states an invention.

Since the Court below did not in fact pass at all upon the alleged improvements defined by the claims of the patent in suit, it is not surprising that it failed to observe how old, and lacking in invention, those alleged improvements really were.

This Court will, of course, consider only what the patent asserts to be the invention. It is for that reason that we have taken up the several claims relied upon and compared them separately with the pertinent prior disclosures and practices.

(b) The Court had an *erroneous* impression as to the novelty, in the film phonograph art, of the various features involved.

In addition to attributing to the patentees a combination invention which was different from anything claimed by them, the Court of Appeals made a number of errors with regard to the individual elements which it included in that unclaimed combination. For example, it said that the patentees of the patent in suit "discovered that this photoelectric cell acts without inertia in cooperation with the light beam". This was no discovery of these patentees nor is it even mentioned in the patent in suit. The prior photoelectric cells necessarily had the same instantaneous response, which means lack of inertia. This was fully set forth in the Kunz patent, filed in 1918.[1] Also, the photoelectric cell had been specifically suggested for use, and actually used, in this particular film phonograph art.[2]

Then the Court spoke of the "arcuate bending" as though it were something new, which it is not.[3] The Court

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[1] *Supra*, pp. 40, 41.

[2] *Supra*, pp. 41, 42.

[3] *Supra*, pp. 36, 37.

said that this "eliminated the troublesome transverse curling and irregular buckling of the film" and "gave firmness to the film at the focal point of the optical system". It did. But that was definitely old, and *the patent in suit did not attribute any such function to it.* Then the Court said that it "permitted it [the film] to be free from physical supports which accumulated dust and scratched and displaced the film", evidently referring to the fact that the sound portion of the film is shown, in Figs. 3 and 6 of the drawings of the patent,[1] as overhanging the edge of the cylinder. The petitioners, however, use nothing of the sort, but only the old Terwilliger guide where the film is *not* free from physical supports.

Then the Court said that the flywheel "as used in this combination, does not attempt to regulate the irregularities of the motor *and other rotating parts of the picture machine.*" It is true that it does not regulate the motor, but it is *not* true that it does not regulate the irregularities of other parts of the machine. That is the only way in which it can act. It acts to regulate the irregularities of the rotating record-carrying cylinder. Thus, the patent in suit states:[2]

> "• • • the film is guided over the periphery of a larger roller R on which it rests closely by friction, even during the turning motion. As the roller is rigidly connected with the rotating mass *m*, or can be constructed so as to be itself the rotating mass, *the film moves uniformly on in like manner as the surface of the roller* R."

And, at lines 86-89, it is said that the flywheel is

> "designed to communicate *to the shaft* and *consequently to the cylinder d,* a uniform revolving speed. The film will consequently move also with uniform speed."

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[1] Vol. III, pp. 2, 3.

[2] Vol. III, p. 6, lines 17-25.

So the flywheel does only what flywheels always have done, namely, render the movement of the shaft and connected rotating parts uniform, and therefore, render uniform the movement of whatever may be driven by those so regulated parts, whether a film or anything else.

Then the Court refers to the flexible spring connection between shaft and flywheel and says:

> "While springs and elastic couplings were old, yet in this new combination *it was an element which was instrumental in producing the uniformity of rotation* which was never secured in the prior art."

The Court overlooked the fact that that was precisely what Constable disclosed in his prior patent[1]—"during the operation of the phonograph, even if the motor moves irregularly or vibrates to an appreciable extent, the irregular movement or vibration will not be imparted to the record support because of the yielding character of the springs 13, which, while they apply the necessary turning force to the record support and record, permit the said support and record to move under the influence of their momentum."

Further, the Court of Appeals said that the patentees of the patent in suit used an "optical slit", and that this "takes the place of the old mechanical slit", as though these patentees were the first to do this. They were not, and the District Court so found.[2]

In addition, the Court of Appeals said that "each of these elements co-act directly with the others to produce a new and useful result; the prevention of sound distortion". No. The result is merely the aggregate of the several results of each of the elements acting in its characteristic old manner. See the authorities,[3] and our discussion of the lack of co-action in the patent sense between the two elements of claim 9, as amended by dis-

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[1] *Supra*, pp. 20, 21.

[2] *Supra*, p. 39.

[3] *Supra*, pp. 44, 45, 46.

claimer, and the three elements of claim 13, as amended by disclaimer.

Another error made by the Court of Appeals is that it apparently gave but little, if any, consideration to the prior patents urged by the petitioners because some were what it called "paper patents."

It is not necessary to prove that a prior patent, relied upon as anticipatory, has gone into commercial use:

> "A prior patent or publication needs not to have been reduced to practice, or to be more than a paper proposition, in order to negative the novelty of a later patent, even though the devices of the prior patents be incapable of successful operation. It is sufficient if the prior patents embody the elements and disclose the principle of operation of the patent in suit." Walker on Patents, 6th Ed., pp. 120, 121.

See also, *Pickering* v. *McCullough,* 104 U. S. 310, 319; *Dashiell* v. *Grosvenor,* 162 U. S. 425, 432; *Westinghouse Air Brake Co.* v. *Christensen Co.,* 128 Fed. 437, 442 (C. C. A. 2); *Hyde* v. *Minerals Separation Ltd.,* 214 Fed. 100 (C. C. A. 9); *Tashjian et al.* v. *Forderer Cornice Works,* 14 F. (2d) 414, 415 (C. C. A. 9).

(c) The Court assumed a contribution by the patentees to commercial success which they did not make.

Closely allied to the Court's failure to consider the invention as actually asserted in the patent, is its wholly unwarranted assumption that these patentees were largely responsible for the commercial success of talking motion pictures. Indeed its entire consideration of this case appears to have been colored by that erroneous assumption.

The Court said:[1]

> "The patentees working together for years on this problem [that of talking pictures] finally solved it and gave to the world a machine and method which

[1] Vol. II, pp. 1159, 1162.

revolutionized the moving picture art and drove 'sound-on-disc pictures from the market'.

* * * * * *

"The patentees were the first to accomplish successfully and commercially photographic sound-on-film reproduction."

As a matter of fact, neither the patentees of the patent in suit nor the respondents (who are patent holding companies) have ever had in commercial use in this country, either directly or through licensees, any sound recording or reproducing machines. The patentees made some attempts along this line in Germany. In 1922 they gave a trial exhibition in Berlin and, thereafter, a few other exhibitions in Germany; but they were discontinued in 1924 or 1925, and there were no "regular commercial productions" in Germany during the years 1925, 1926 or 1927.[1] Talking motion pictures succeeded commercially for the first time in August, 1926, in the United States, *not* in Germany, when sound records made by Warner Brothers with the Western Electric disc system were exhibited with motion pictures at the Warner Theatre in New York City.[2] Sound on film was first introduced commercially in January, 1927 by the Fox-Case Corporation and the Western Electric Company jointly,[3] and it was followed in 1928[4] by the RCA Photophone sound-on-film system which was based on Hoxie's work dating back to 1920.[5] The patentee, Engl, brought his machine to the Fox Film Company in January, 1927 but the Fox Film Company rejected it and continued to use the Fox-Case and Western Electric system under the Western Electric license which the Fox Film Company had acquired in 1926.[6] One of the respondents' witnesses testified that he attended a successful demonstration of sound-on-film talking pictures by Case of Fox-Case in 1925,

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[1] Vol. I, p. 186.

[2] Vol. II, p. 848.

[3] Vol. I, pp. 241-2.

[4] Vol. II, p. 846.

[5] *Supra,* pp. 12, 13.

[6] Vol. I, p. 242.

which was long before Engl ever attempted any demonstration in this country, and that Case was then using the flywheel and photoelectric cell,[1] as Hoxie had been doing for some years. And, of course, sound-on-film talking pictures were at their height commercially when the patent in suit issued in 1929. *As has been pointed out above, the only claims here in suit which involve elements other than the flywheel, were inserted into the application for the patent in suit only a few months before its issuance, and for the obvious purpose of attempting to cover the successful commercial operations of the American companies.*

The remarkable quality of the sound records made on the original Western Electric apparatus and the enthusiasm with which the productions were received by the public in August, 1926 was the beginning of the revolution in the motion picture industry throughout the world, which has now reached the point where the silent picture has been superseded almost completely. Probably no other industry has ever been so completely revolutionized in so short a space of time. We may properly ask why this revolution did not occur at the hands of the patentees while they were showing their pictures in Germany prior to 1926 if they would claim responsibility for it. The correct answer was given by the petitioners' expert witness Waterman[2] and has been judicially stated in at least three prior cases to which reference will be made in a moment.

The electrical amplification system such as used by petitioners is depicted in Exhibit 69 and, as Waterman testified,[3] "produces an amplification of ten thousand millions in energy". Of amplifiers used in recording, he says:[4] "This amplifying equipment, when called on to do its best, gives a power amplification of five million millions of times" the power of the original signal. Waterman points out[5] that "such

[1] Vol. I, p. 240.
[2] Vol. II, pp. 636-642.
[3] Vol. II, p. 640.
[4] Vol. II, p. 636.
[5] Vol. II, pp. 640-642.

enormous amplification without distortion involved problems that took many years to solve; that the microphones, the electric circuits, the transformers, the vacuum tubes and the loud speakers all likewise involved problems of avoiding distortion, and that talking picture apparatus came only when all of these had been developed and coordinated, and could *not* come before", that the patent in suit makes no disclosure whatever as to any of these matters, and that the work that resulted in the commercial development was done in several of the large laboratories of this country, the General Electric laboratory, the Western Electric or Bell Telephone laboratory, and others. *"It has been the product of many workers over a long period, probably running from about 1912, when amplifiers were first seriously considered, down to 1926, when we first had motion pictures that had the capacities to stay."*[1]

Judge Campbell found in the *Paramount Case,* No. 254 in this Court:

> "No commercial success is shown by the plaintiff, and the patentees made no real contribution to the art. The success of the defendant, its licensor and its licensees is due to the many inventions of the Western Electric Company, without which success would have been impossible."

As has been said, sound pictures to be successful required that both the recording and reproduction of the sound be accomplished with extreme accuracy and without detectable distortion throughout a wide range of frequencies and irrespective of great changes in volume and power.[2] In *Western Electric Co.* v. *Wallerstein,* 60 F. (2d) 723, 724 (C. C. A. 2), the Court said:

> "The range of audible frequencies is from 16 to 16,000 vibrations per second. For sound pictures and

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[1] Vol. II, p. 642.

[2] Vol. II, pp. 640-642.

> public address systems, substantially from 30 to 5,000 cycles must be reproduced without distortion *in order to give the high quality which is known today.* Greater power is needed to drive the loud speakers of these systems than is required for radio or telephone. The lack of faithful reproduction would be so accentuated under certain conditions as to destroy the utility of the systems. *The success of sound pictures was due solely to high quality reproduction; that is, without distortions.*"

The electrical companies in this country, including those just mentioned and also the General Electric Company, developed these electrical devices which the patentees of the patent in suit failed to provide.[1] Even the respondents' own engineer, Joy, who testified at the opening of the trial, admitted that the amplifiers developed in this country were indispensable.[2] And so also were the loud speakers and microphones. As to the former, the Court in *Western Electric* v. *Kersten,* 44 F. (2d) 644, 646, said:

> "It satisfactorily appears that the Wente device for the first time reproduced this range of frequencies with sufficient loudness, fidelity, and directness to make possible its use in the important and growing industry of entertainment by means of motion pictures."

The American Telephone and Telegraph Company and Western Electric Company having been engaged in the field of sound transmission and communication for many years and their major efforts having been devoted to sound, it is logical that they should have been the first to solve the problems of sound apparatus necessary for the success of the modern talking picture. The reason that they succeeded while others, including the patentees, failed, was not due to the solution of any mechanical

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[1] Vol. II, p. 642.

[2] Vol. I, p. 244.

problem, such as providing uniform motion—which problem had been solved long before the alleged invention of the patent in suit—, but to the electric developments referred to above, with which the patentees of the patent in suit had nothing to do.

These electrical developments were not only equally applicable to both disc and sound-on-film recording and reproducing but were essential to the success of both in modern theatres where large volumes of undistorted sound are required. Both systems first succeeded in the United States.

Not only was the Court of Appeals in error in attributing the success of sound-on-film talking pictures to the alleged invention of the patent in suit, but it would have been in error in predicating its opinion upon such a circumstance, even if it had been true. For it is well settled that commercial success is not a proper criterion of invention. When there is real doubt as to whether a claim defines invention over the prior art, commercial success, if clearly attributable to the thing claimed, may turn the scales in favor of the claim. That is its only role.[1] Where, as here, the claims are wholly devoid of invention, commercial success should have had no bearing even if it had been established—which it was not.

As further indicating the unusual attitude assumed by the Court of Appeals toward the parties to this case, attention is called to the manner in which it dealt with the defense urged by petitioners, that the patent in suit was invalid because its subject matter was not in fact the joint invention of the three patentees.[2]

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[1] *DeForest Radio Co.* v. *General Electric Co.*, 283 U. S. 664, 685; *Hotchkiss* v. *Greenwood*, 11 How. 248, 254; *Smith* v. *Nichols*, 21 Wall. 112, 114.

[2] This is a complete defense against a United States patent. *De Laval Separator Co.* v. *Vermont Farm Mach. Co.*, 135 F. 772.

Vogt, one of those patentees (they were all Germans) published a statement in 1932 that he was "the personal inventor" of the patent here in suit.[1] Naturally, those interested in the defense of this case followed up this important lead which promised a complete defense against the patent. They had a representative call upon Vogt in Germany and ask him to look up his records on the matter, and of course they offered to pay him for the time spent by him on the work.[2]

But before Vogt had done anything about it, the respondents' representatives, having learned of the situation from him, *obtained an injunction from a German Court prohibiting him from disclosing anything regarding the invention to a third party.*[3] Thus the effort to obtain evidence from Vogt on this defense of lack of joint inventorship, was effectively frustrated.

This high handed action by the respondents in suppressing evidence was, in our view, that of unclean hands and was so characterized by us in the Court of Appeals. But that Court, instead of treating it as such, condoned everything that respondents had done, and *criticized the action of the petitioners,* referring to the offer to reimburse Vogt for his work as an attempt "to bribe him"![4]

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[1] Vol. V, p. 1673.

[2] The record does not show the rate of reimbursement offered. It was one of the *respondents'* witnesses, Joy, who testified about this, and he said he did not know the amount offered (Vol. I, p. 239).

[3] Vol. I, pp. 234, 235.

[4] Vol. II, pp. 1167, 1168; and see also the supplement and unreported opinion of the Court, Vol. II, p. 1175, in which the Court refused to eliminate these words from its first opinion.

POINT III.

The disclaimer is invalid because it changes the character of the invention covered by the claims; therefore the claims, having been unlawfully altered, are invalid. Even if the only result of filing an invalid disclaimer were that it should be disregarded in comparing the claims with the prior art, the claims would still be obviously invalid for the very reasons that prompted the disclaimer.

This case presents a striking example of the unlawful uses attempted to be made of disclaimers.[1] We therefore urge here as we did below that the disclaimer filed in connection with the patent here in suit, is invalid. *The Court of Appeals' opinion makes no reference to this point.*

The patent was issued in May, 1929.

After this suit was brought, respondents at their request were permitted to make detailed studies of the alleged infringing machines, and were served with amended answers. Then, in May 1933, eleven years after the patent was applied for, four years after the patent issued and only eleven days before trial, the respondents filed a disclaimer modifying and attempting to add elements to the various claims in suit.[2]

It will be observed that this disclaimer was signed by the American Tri-Ergon Corporation, by its president William Fox. *The patentees of the patent in suit had nothing to do with this.* The Patent Office never had before them these claims, as changed by disclaimer, to reject, or to grant. When a disclaimer is presented, it is merely filed.

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[1] We quote the disclaimer statute at page 63, *infra.*

[2] Vol. III, pp. 227-9.

Every one of the claims in suit was changed by the disclaimer. The application as filed related broadly to a ribbon phonograph, whether the ribbon be formed of steel wire, wax-coated paper, or film.[1] It was not confined to a photographic record. Claims 5, 7, and 17, as issued, specified broadly such a ribbon record, and no apparatus for translating the sound to or from the ribbon record was specified in these claims. Each of these claims was amended by the disclaimer so as to make it refer specifically to "apparatus wherein and methods whereby sound is translated by light to or from a film". The obvious purpose of these amendments was to try to avoid those prior patents, such as Bell & Tainter No. 341,214[2] and Dragoumis French Patent No. 472,467,[3] in which the ribbon record is recorded and reproduced by means of a stylus instead of by light.

The patent in suit was applied for and obtained on the representation that the patentees had made an invention by using a flywheel on a phonograph in which a *ribbon* record of any description might be used and irrespective of whether the sound was reproduced by light, by a stylus or by any other device. *The patentees could not, by means of a disclaimer, retract from this position and by so doing escape the prior art which discloses ribbon phonographs employing flywheels.*

The disclaimer as to claim 17 is a particularly flagrant example, and as to which respondents' counsel admitted at the trial *"that it brings in a definite limitation, which can't be fairly said that it should have been read in there, in light of the specification."* This claim, as issued, was one of the most comprehensive claims in the patent and was fully anticipated. It was amended not only to cover specifically a film phonograph, but, also, in order to change

[1] *Supra*, p. 5.

[2] Vol. IV, p. 763, pp. 25, 26, *supra*.

[3] Vol. V, p. 1379, p. 27, *supra*.

it into a claim for something entirely different from what it was originally, two additional elements were inserted: (1) "a sprocket engaging the carrier forms a part of the carrier progressing means" and (2) "a substantial portion of the periphery of the cylinder is in contact with the carrier in its travel from the intermediate point to said sprocket". These amendments were made *for the purpose of bringing the claim as close as possible to the petitioners' PS-16 machine, and of avoiding the prior art.* As rewritten the claim is for an alleged invention which the patentees never imagined they had invented.

Equally as flagrant as the amendment made to claim 17 by the disclaimer, are the amendments made to claims 9 and 13. As granted, claim 9 covered broadly the idea of arcuately flexing the film at the translation point—an extremely old idea. Arcuate flexing is the same, and performs the same function, irrespective of the degree of constancy of the record speed. Yet by disclaimer, this claim was amended by adding the wholly foreign idea of the flywheel. Claim 13 was amended in the same way, the flywheel being equally foreign to its original optical subject matter. So also, the disclaimer amendments to claims 18 and 19, which add the feature of passing the film over a rotating member, bring in an entirely new element to claims which originally were broad method claims.

If the respondents wished to try to distinguish their obviously invalid original claims from the prior disclosures, by rewriting them, they should have applied for a reissue so that the Patent Office could pass upon them as rewritten. By resorting to a disclaimer for this purpose, they deprived the public of the protection which this review by the Patent Office would have afforded.

In the classic case of *White* v. *Dunbar,* 119 U. S. 47, 51, this Court took occasion to state in no uncertain terms the injustice to the public which would result from construing

a patent claim in a manner different from the plain import of its terms, saying:

> "Some persons seem to suppose that a claim in a patent is like a nose of wax which may be turned and twisted in any direction, by merely referring to the specification, so as to make it include something more than, or something different from, what its words express. The context may, undoubtedly, be resorted to, and often is resorted to, for the purpose of better understanding the meaning of the claim; but not for the purpose of changing it, and making it different from what it is. The claim is a statutory requirement, prescribed for the very purpose of making the patentee define precisely what his invention is; and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms. This has been so often expressed in the opinions of this court that it is unnecessary to pursue the subject further. See *Keystone Bridge Co.* v. *Phoenix Iron Co.*, 95 U. S. 274, 278; *James* v. *Campbell,* 104 U. S. 356, 370."

The disclaimer Statute never was intended to convert all claims into noses of wax, or to create a way in which they might lawfully be turned and twisted in any direction, at any time, as might seem most favorable to the patentee. Yet that is exactly the use these respondents attempted to make of that Statute, when they filed their disclaimer on the eve of the trial of these cases.

Nothing could be more inequitable than the resulting situation, if respondents are permitted to consummate their unlawful purpose. Petitioners' type PS-1 machine was placed on the market as early as October, 1928, which was considerably before the patent issued. And the type PS-16 was introduced in December, 1929. *Both machines were kept on the market in the belief that the patent as issued was clearly invalid. And the RCA Photophone business, involving large investments made in good faith, was based on these machines. Their continued use should*

not be enjoined by a court of equity at the behest of respondents, who, in view of their disclaimer, certainly have not done equity.

The disclaimer Statute is quoted in the margin* where appears, also, the Reissue Statute.

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* *Disclaimer Statute.*

R. S. Sec. 4917. (35 U. S. C. 65). "Whenever, through inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, a patentee has claimed more than that of which he was the original or first inventor or discoverer, his patent shall be valid for all that part which is truly and justly his own, provided the same is a material or substantial part of the thing patented; and any such patentee, his heirs or assigns, whether of the whole or any sectional interest therein, may, on payment of the fee required by law, make disclaimer of such parts of the thing patented as he shall not choose to claim or to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent. Such disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office; and it shall thereafter be considered as part of the original specification to the extent of the interest possessed by the claimant and by those claim-

Reissue Statute.

R. S. Sec. 4916. (35 U. S. C. 64). "Whenever any patent is wholly or partly inoperative or invalid, by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, if the error has arisen by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, the commissioner shall, on the surrender of such patent and the payment of the duty required by law, cause a patent for the same invention, and in accordance with the corrected specification, to be reissued to the patentee, or to his assigns or legal representatives, for the unexpired part of the term of the original patent. Such surrender shall take effect upon the issue of the reissued patent, but in so far as the claims of the original and reissued patents are identical, such surrender shall not affect any action then pending nor abate any cause of action then existing, and the re-

The question as to whether a disclaimer may properly be used to do what should be done, if at all, by a reissue, is a matter of substance and not a technicality.

Claims secured for the first time by reissue, speak only from the date of the reissue, there being no possibility of a recovery for their infringement with reference to

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ing under him after the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing it."

issued patent to the extent that its claims are identical with the original patent shall constitute a continuation thereof and have effect continuously from the date of the original patent. * * * The specifications and claims in every such case shall be subject to revision and restriction in the same manner as original applications are. Every patent so reissued, together with the corrected specifications, shall have the same effect and operation in law, on the trial of all actions for causes thereafter arising, as if the same had been originally filed in such corrected form; but no new matter shall be introduced into the specification, nor in the case of a machine patent shall the model or drawings be amended, except each by the other; but when there is neither model nor drawing, amendments may be made upon proof satisfactory to the commissioner that such new matter or amendment was a part of the original invention, and was omitted from the specification by inadvertence, accident, or mistake, as aforesaid."

acts prior to the reissue[1] as the Statute itself specifically provides. Under that Statute the claims of a patent may be broadened[2] or narrowed.[3]

On the other hand, if claims may be thus amended by disclaimer, recovery for infringement of them may be had *with respect to acts prior to the date of filing the disclaimer.* As the statute provides, it shall not "affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing it." That is, the action may proceed.

A reissue is for the purpose of making changes in specification, or claims, or both. A disclaimer must be limited to deleting from the patent something which is definitely distinguishable from the remainder, such as a complete claim, and cannot be used to claim some new and different invention.

The present case presents an instance of "amending a patent by means of a disclaimer" which the Court disapproved in *Hailes* v. *Albany,* 123 U. S. 582, 586. In that case, the patent was for a stove in which the fire-pot had slots in its side to feed air to the coal in that pot. It was so described in the specification, though the drawings showed the slots extending only about half way up the side of the pot. The disclaimer was, in part, as follows:

> "'Your petitioners, therefore, hereby enter their disclaimer to so much of the first claim as covers perforations or openings in the side of a suspended fire-pot extending throughout the entire depth of sides, and limiting such perforations or openings to substantially the lower half of the fire-pot, the material or substantial part of the thing patented in and by said claim not hereby disclaimed being as follows:
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> "'A fire-pot suspended from its upper edge with substantially the upper half of its sides made solid, and substantially the lower half of its sides containing perforations or openings.'"

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[1] *Moffit* v. *Garr,* 66 U. S. 273; *Eby* v. *King,* 158 U. S. 366.

[2] *Miller* v. *Brass Co.,* 104 U. S. 350.

[3] *Parker* v. *Yale,* 123 U. S. 87.

This Court held the patent and the disclaimer to be void, saying, pages 587, 589:

> "And if it requires an amended specification or supplemental description to make an altered claim intelligible or relevant, whilst it may possibly present a case for a surrender and reissue, it is clearly not adapted to a disclaimer. A man cannot, by merely filing a paper drawn up by his solicitor, make to himself a new patent, or one for a different invention from that which he has described in his specification. That is what has been attempted in this case. * * *
>
> "It is contended that the drawings annexed to the patent may be referred to for the purpose of defining the invention and showing what it really was. But the drawings cannot be used, even on an application for a reissue, much less on a disclaimer, to change the patent and make it embrace a different invention from that described in the specification.
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> * * * * * *
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> "* * * we think it clear that there is no authority for amending a patent by means of a disclaimer in the manner in which the appellants have attempted to amend their patent in the present case."

Later, in *Minerals Separation* v. *Butte,* 250 U. S. 336, this Court had before it certain claims which had previously been held to be invalid in that they merely prescribed a "small quantity of oil", which the Court regarded as "a wholly indefinite quantity." The disclaimer limited the amount of oil "to a fraction of 1 per cent on the ore." This Court sustained the disclaimer, saying (p. 354):

> "While the wording of the disclaimer *borders on finesse,* we do not think it can be interpreted as giving any rights under the patent greater than may be legitimately obtained under the claims held valid * * *."

Following that decision there has grown up the practice of using disclaimers for making radical changes in claims, and adding elements thereto.

The misuse of the disclaimer statute was brought to this Court's attention in 1924 in *Thropp's Sons Co.* v. *Seiberling*, 264 U. S. 320, in which a writ of certiorari to the Circuit Court of Appeals for the Third Circuit was granted. Unfortunately, however, this Court found it unnecessary to pass upon the disclaimer. The Court said (pp. 330, 331):

> "• • • The disclaimers are attacked on the ground that they exceed the legal function of a disclaimer and are an attempt to change a mechanical patent to a process or method patent, *something which could only be properly accomplished by a reissue.* • • • We do not find it necessary to pass upon the validity of the method of making disclaimers here pursued, because we agree with the Sixth Circuit Court in failing to find invention in the State device either as a mechanical or as a method patent."

In the brief in support of the petition for a writ of certiorari in that case, it was stated:

> "It is of the utmost importance to all persons or concerns interested or connected with patent matters that it should be decided by this Court whether or not a disclaimer, filed *ex parte* and not subject to examination by the Patent Office officials, can be used so as to change a machine patent into a method patent. *If this point is not now decided by this Court, there will undoubtedly be numerous attempts along this same line which will result in a great amount of litigation and indecision as to a fundamentally important provision of the patent Statutes.*"

This prophecy has been fully realized. The misuse of the disclaimer statute has become notorious. The disclaimers involved in this case, and in the case of *Fruehauf Trailer Co.* v. *Highway Trailer Co.*, 67 F. (2nd) 558 are typical of the practice which has grown up. In the latter case the Court of Appeals for the Sixth Circuit recently held (pp. 559, 560):

> "• • • The enactment of Rev. St. Sec. 4917 (35 USCA Sec. 65), was never intended to permit the re-

> vamping and rephrasing of claims to the end that they might cover structures upon which they did not before read, or to the end that, by the addition of a new element in combination, the disclaimer might validate a claim which would otherwise be invalid under the prior art. This is not limiting the combination already claimed; it is in effect claiming a new and a different combination, (citing cases). The function of a disclaimer is well stated in the leading case of *Hailes* v. *Albany Stove Co.* 123 U. S. 582, 587. It must cover 'a separate claim in a patent, or some other distinct and separable matter, which can be exscinded without mutilating or changing what is left standing.' *It cannot be used to change the character of the invention, or, in effect, to make for the patentee a new patent. This is fundamental.* * * *
> *"Tested by these standards, both disclaimers are invalid."*

Tested by the same standards the disclaimer in this case is clearly invalid. For it purported to change the character of the invention covered by each of the claims in suit, to make for the patentees a new patent. As to each of those claims its purpose was "by the addition of a new element * * * [to] validate a claim which would otherwise be invalid under the prior art".

What is the effect of the invalidity of the disclaimer upon the validity of the claims? We know of no case in which a Court has held a disclaimer invalid without holding the affected claims invalid also. Usually, the reason given is that the claims as granted, and without giving effect to the invalid disclaimer, are anticipated, or lack invention over the prior art.

It has never been decided by this Court, or by any Circuit Court of Appeals, so far as we have found, whether claims unlawfully amended by disclaimer are *ipso facto* invalid.

The filing of a disclaimer irretrievably alters the claim which it amends. Thereafter the originally granted claim no longer exists. Consequently, the logical result of the

unlawful amendment of a claim by disclaimer would seem to be that the amended claim is invalid. The course frequently followed by the Courts, of merely disregarding the disclaimer amendments, when unlawful, serves to encourage patentees to file amending disclaimers.

These respondents, in purported compliance with the disclaimer statute, filed their disclaimer, in effect specifying the original claims as the parts which *they did not "choose to claim or hold by virtue of the patent or said assignments".*[1] This may well be regarded as a specific and irrevocable declaration to the public that the respondents would never again assert those original claims, and one which should not be disregarded merely because, in addition to making it, the respondents attempted, in the same instrument, to write new claims into their patent, without sanction of statute.

In the dissenting opinion of Judge Davis in the case of *Seiberling* v. *John E. Thropp's Sons Co.,* which came to this Court on writ of certiorari to the Court of Appeals for the Third Circuit,[2] he said, 284 Fed. 746, 759:

> "* * * The disclaimer is a virtual restatement of the claims, changing their character from a simple machine to a new combination machine, whose elements operate according to a prescribed method. This may not be done by a disclaimer. Enameled Metals Co. *v.* Western Conduit Co., *et al.* (C. C. A.) 269 Fed. 620; Hailes *v.* Albany Stove Co., 123 U. S. 582, 587, 8 Sup. Ct. 262, 31 L. Ed. 284. If claims may be changed, so that a combination of elements constituting a simple machine may be modified and formed into a new combination, and the elements given a prescribed mode of operation by a disclaimer, it is difficult to know what function a reissue performs. This suit may not be maintained by virtue of section 4922 of the Revised Statutes (Comp. St. Sec. 9468).
>
> "The *disclaimer invalidates the patent,* and the decree dismissing the bill, in my opinion, should be affirmed."

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[1] Vol. III, pp. 227, 228.

[2] *Supra,* p. 67.

The majority opinion of that Court was that the disclaimer was proper, and, as noted above, this Court found it unnecessary to pass on that point, since it held the claims invalid over the prior art both in their original and in their disclaimed form. Of course we do not cite this dissenting opinion as an authority—merely as a judicial expression of the way in which these invalid, claim-revising disclaimers have been viewed.

In the present case, the ultimate result is the same whether the claims are held invalid because of the invalidity of the disclaimer, or whether the Court merely disregards the disclaimer amendments in comparing the claims with the prior art. For, as we have seen, the claims even as amended by the disclaimer are clearly invalid for anticipation and lack of invention. If the disclaimer amendments are disregarded, the claims are reduced to their original hopelessly invalid state, the recognition of which by the respondents, was responsible for their filing the disclaimer.

Conclusion.

We respectfully submit that the claims here in issue should be held invalid for the reasons stated, and that the decision of the Circuit Court of Appeals should be reversed.

Respectfully submitted,

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